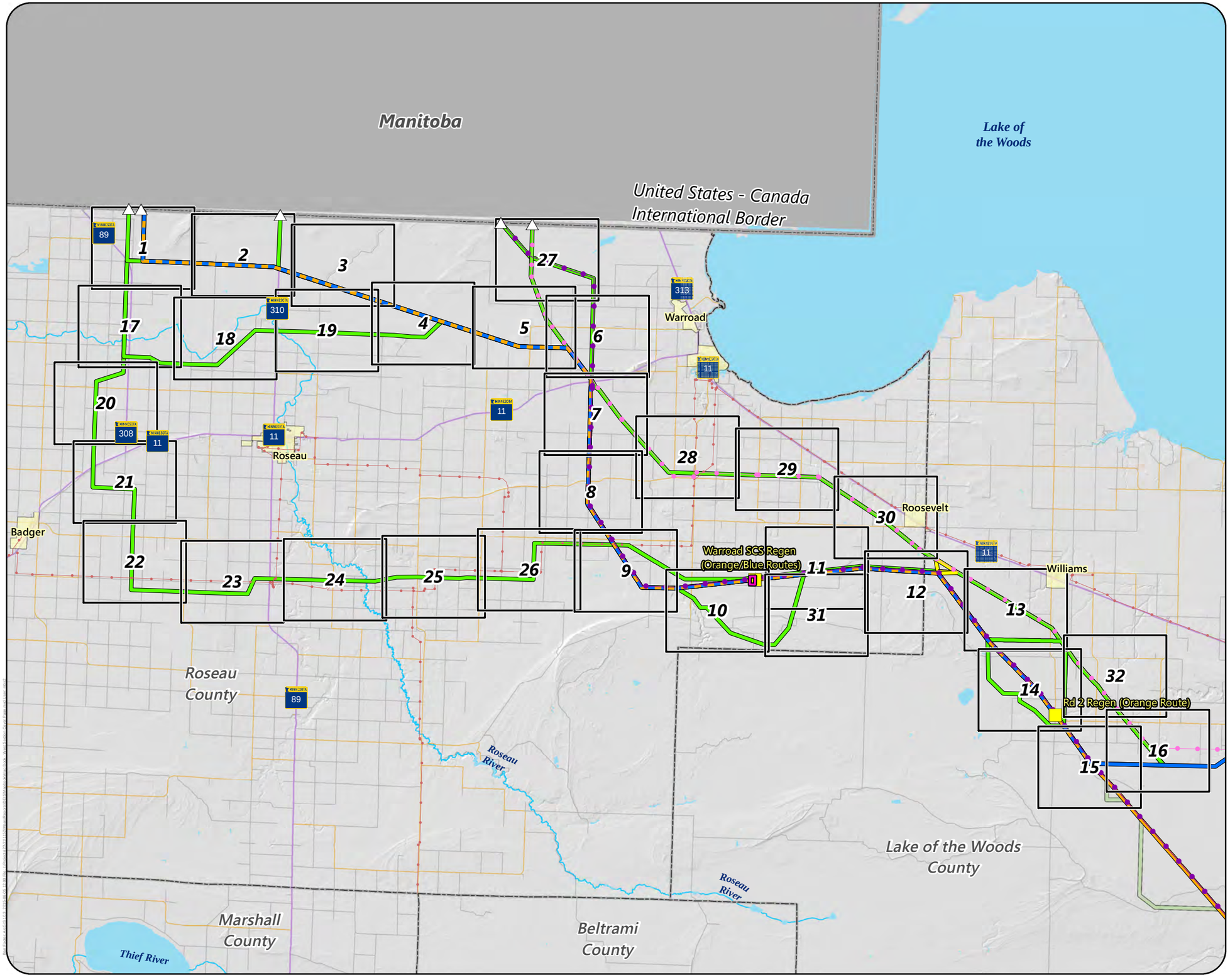
Appendix S

Detailed Map Books



Map Book Page
Border Crossing Point
Proposed Regeneration Site

Proposed Routes
Blue/Orange Route
Blue Route
Orange Route

Alternatives
Route Variation
Route Variation Hop
Proposed Series Compensation Station

Existing Transmission Lines
69 or 115 kV
230 kV
500 kV

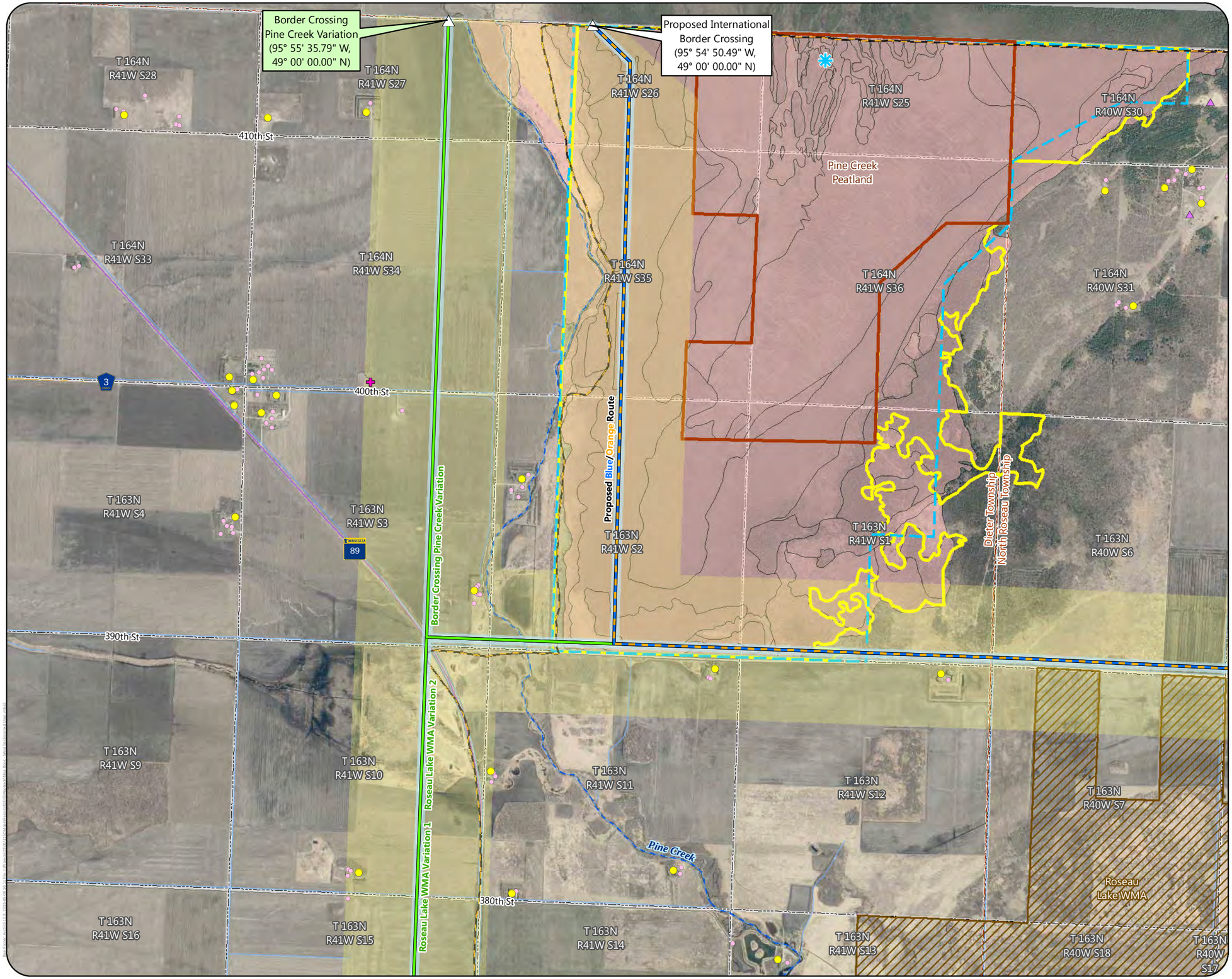
Streets and Highways
State Trunk Highway
County State Aid Highway
Local Road
Municipal Boundary
County Boundary
International Boundary

Miles
4.5 0 4.5

Appendix S - West Section Cover

WEST SECTION OVERVIEW
Great Northern Transmission Line
Final Environmental Impact Statement

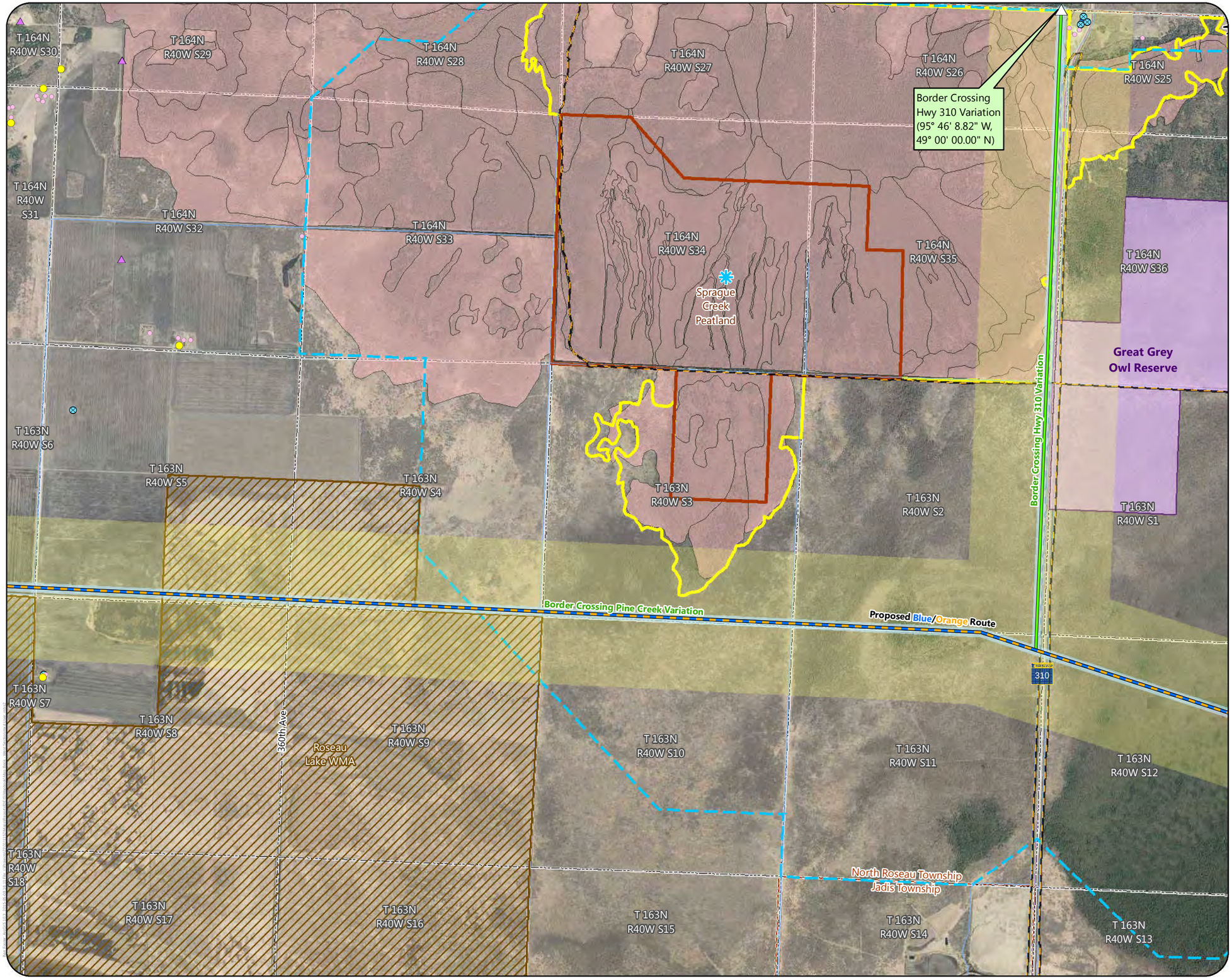
U.S. DEPARTMENT OF ENERGY
MINNESOTA DEPARTMENT OF COMMERCE

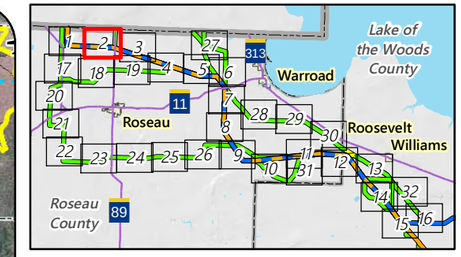


Appendix S - Map 1

MAP BOOK - WEST SECTION

Great Northern Transmission Line
Final Environmental Impact Statement





Border Crossing Point

Proposed Routes

Blue/Orange Route

Alternatives

Route Variation
Anticipated Right-of-Way
Anticipated Route Width
Residences
Commercial or Non-Residential Structure
Approximate Calcareous Fen Location
Airstrip
Aggregate Source Location
County Well Index
NHD Watercourse
Wildlife Management Area (WMA)
Great Grey Owl Reserve
Scientific and Natural Area (SNA)
Preliminary Peatland SNA Watershed Protection Area
High Conservation Value Forest
Native Plant Community (Data only available for Roseau County)
Snowmobile Trail
Civil Township
Public Land Survey Section
County Boundary
International Boundary

MPCA Database

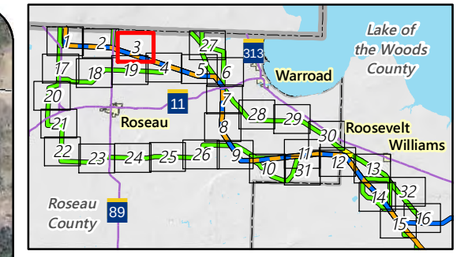
Tanks and Leaks

Feet
2,000 0 2,000

Appendix S - Map 2

MAP BOOK - WEST SECTION

Great Northern Transmission Line
Final Environmental Impact Statement



Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Great Grey Owl Reserve
- Preliminary Peatland SNA Watershed Protection Area
- Snowmobile Trail
- Public Land Survey Section

Feet

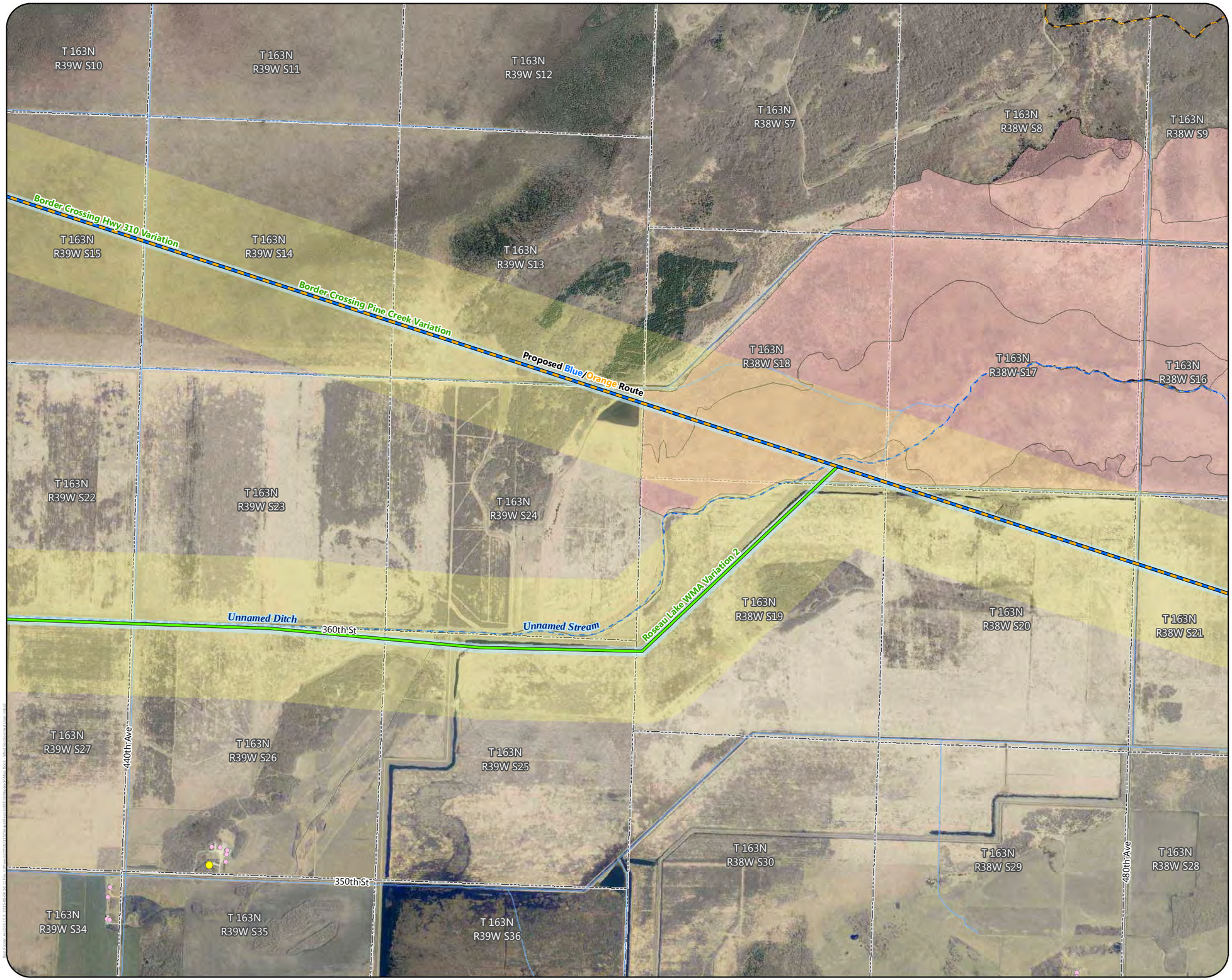
2,000 0 2,000

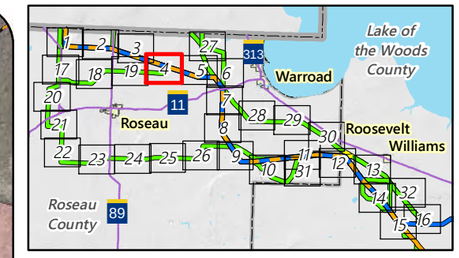
Appendix S - Map 3

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- NHD Watercourse
- PWI Watercourse
- Native Plant Community (Data only available for Roseau County)
- Snowmobile Trail
- Public Land Survey Section

Feet

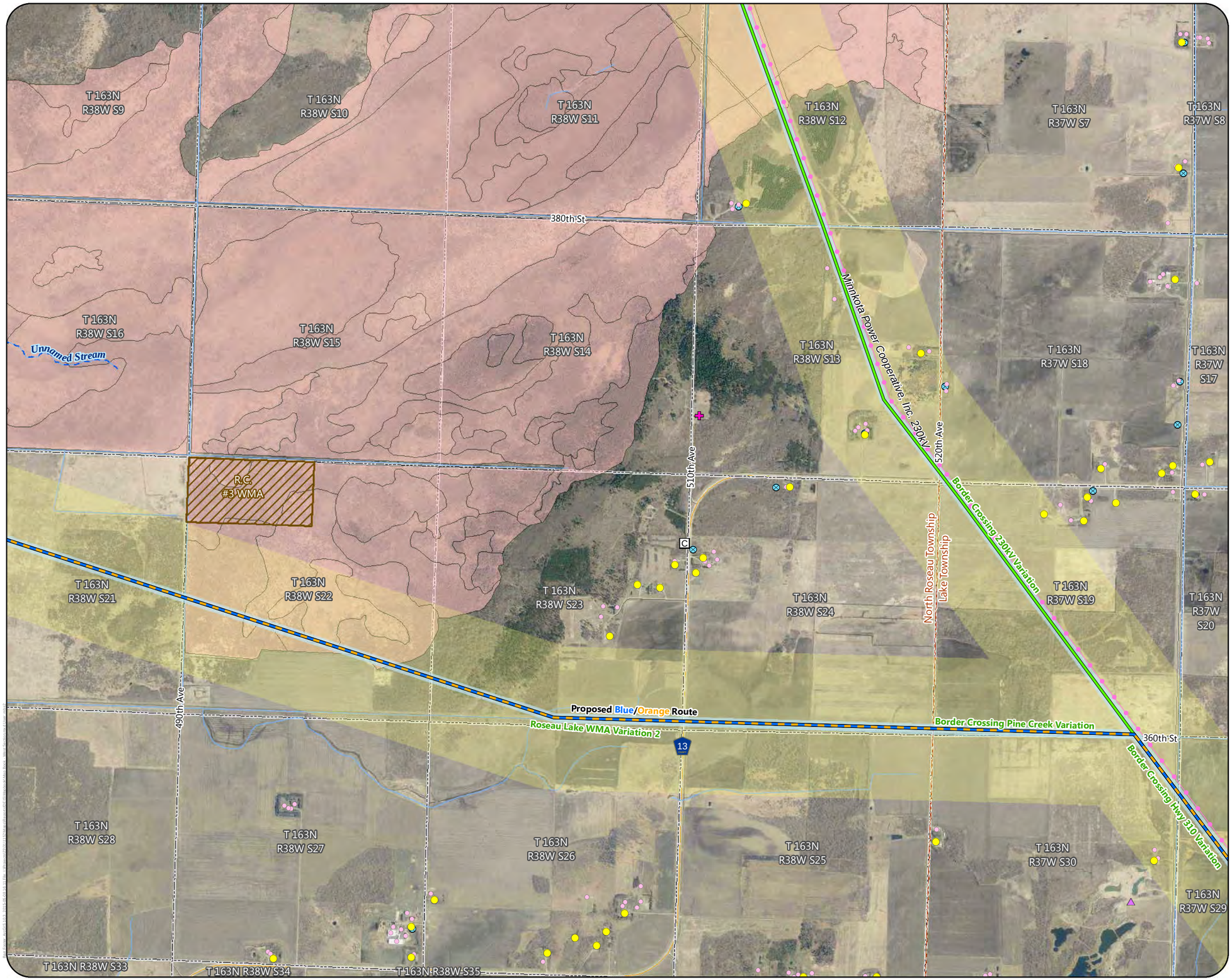
2,000 0 2,000

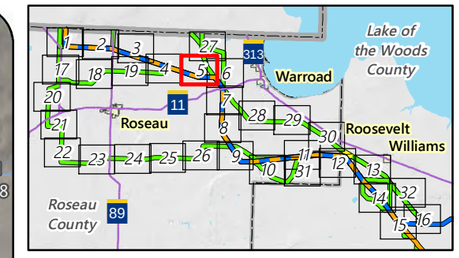
Appendix S - Map 4

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Church
- Cemetery
- Aggregate Source Location
- County Well Index
- NHD Watercourse
- PWI Watercourse
- Wildlife Management Area (WMA)
- Native Plant Community (Data only available for Roseau County)
- Civil Township
- Public Land Survey Section

Existing Transmission Lines

- 230 kV

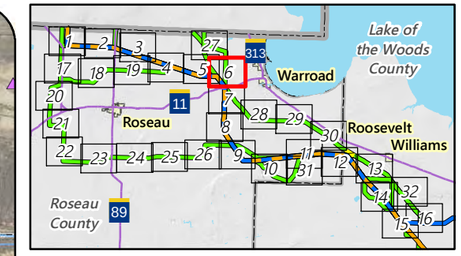
Feet

2,000 0 2,000

Appendix S - Map 5

MAP BOOK - WEST SECTION

Great Northern Transmission Line
Final Environmental Impact Statement



Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Aggregate Source Location
- County Well Index
- NHD Watercourse
- Native Plant Community (Data only available for Roseau County)
- Scenic Byway
- Civil Township
- Public Land Survey Section

MPCA Database

- Tanks and Leaks

Existing Transmission Lines

- 230 kV
- 500 kV

Feet

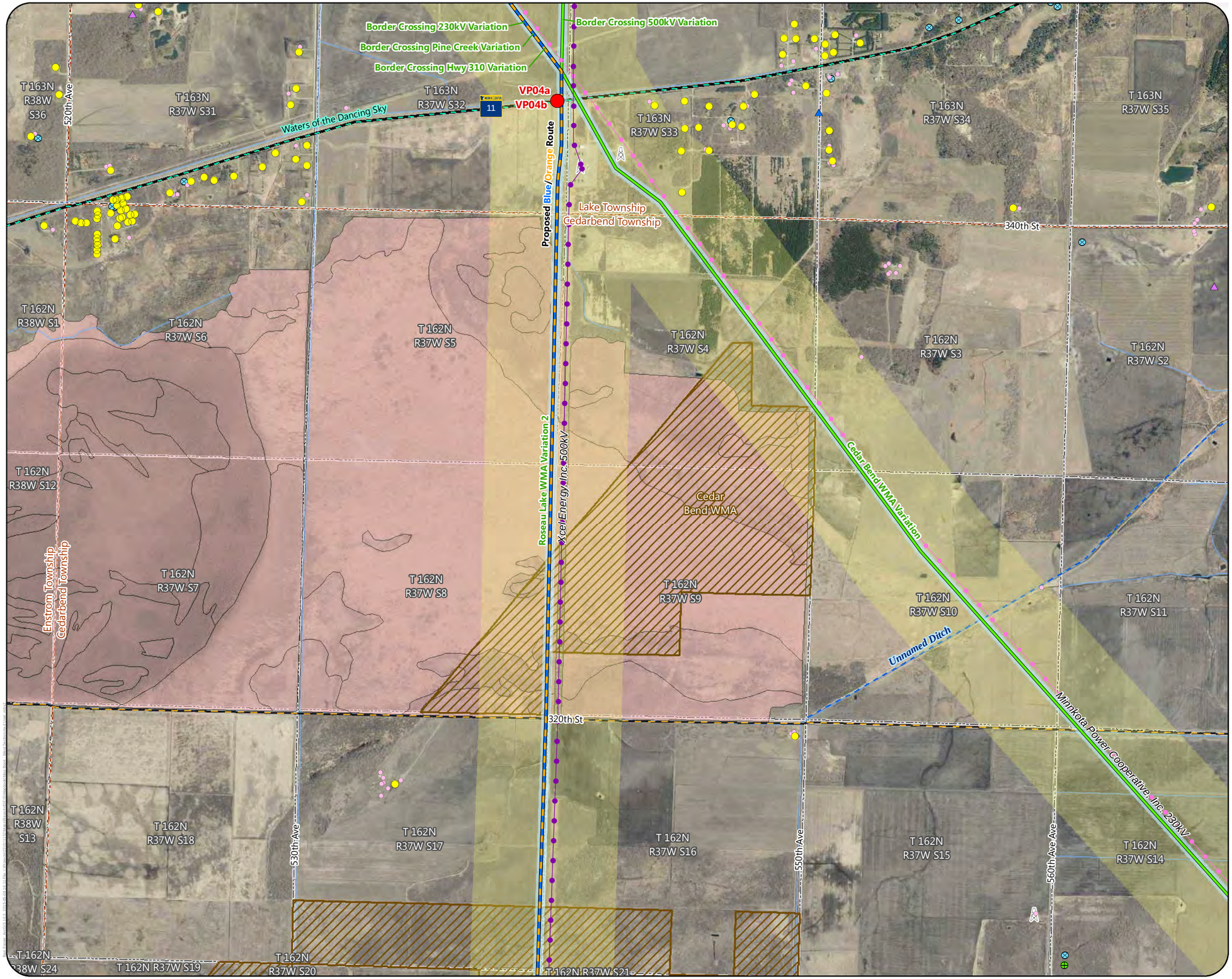
2,000 0 2,000

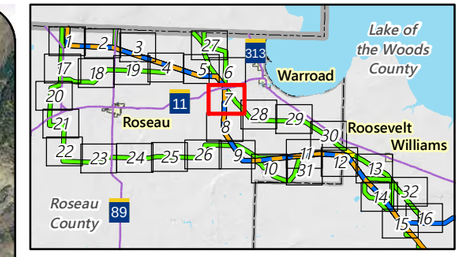
Appendix S - Map 6

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Visual Simulation Viewpoint
- Residences
- Commercial or Non-Residential Structure
- Aggregate Source Location
- Communication Tower
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- Wildlife Management Area (WMA)
- Native Plant Community (Data only available for Roseau County)
- Scenic Byway
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

MPCA Database

- Hazardous Waste
- Tanks and Leaks

Existing Transmission Lines

- 230 kV
- 500 kV

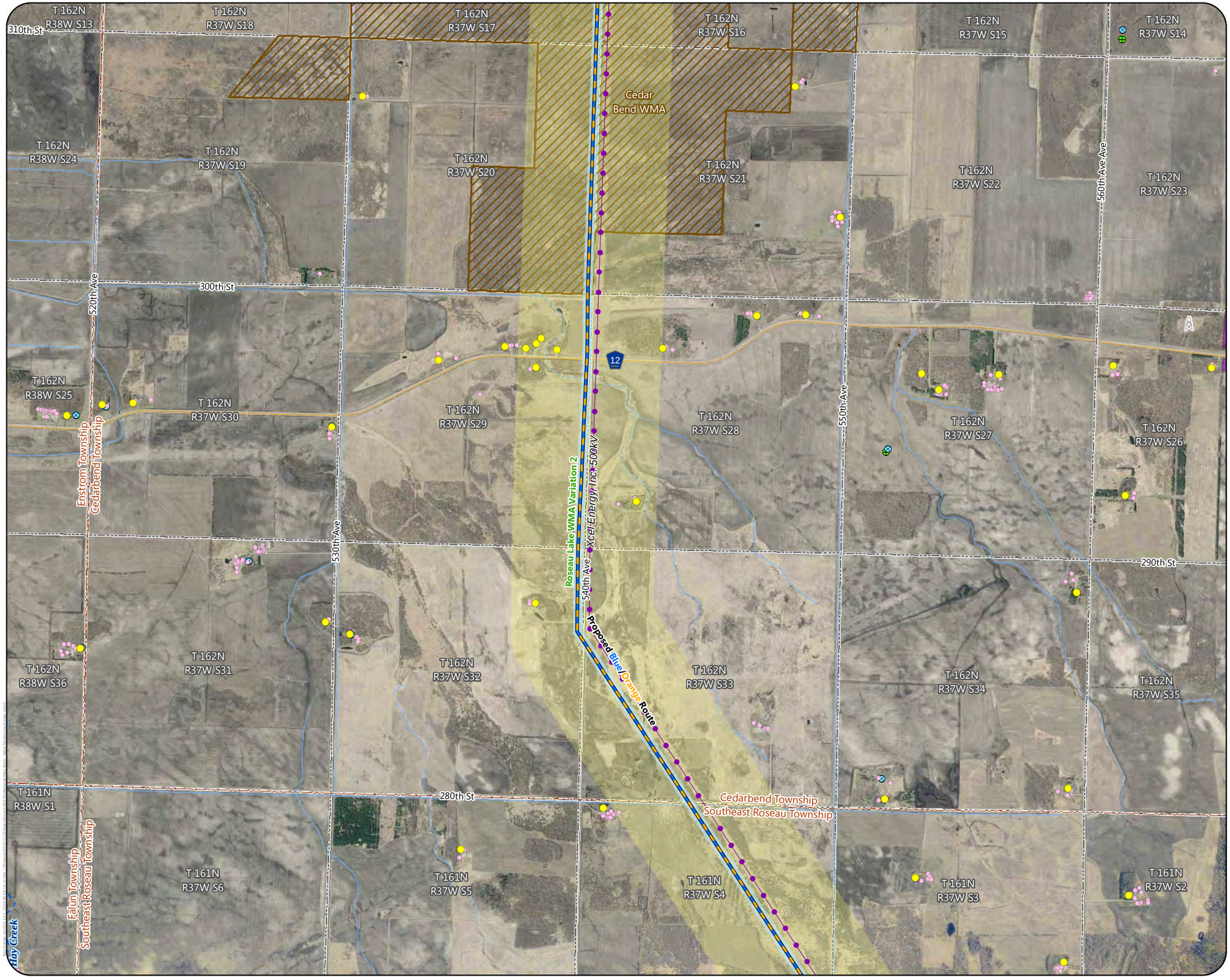
Feet

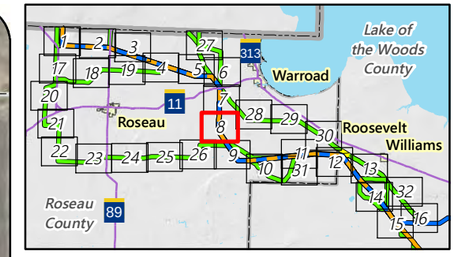
2,000 0 2,000

Appendix S - Map 7

MAP BOOK - WEST SECTION

Great Northern Transmission Line
Final Environmental Impact Statement





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Communication Tower
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- Wildlife Management Area (WMA)
- USFWS Interest Lands
- Civil Township
- Public Land Survey Section

Existing Transmission Lines

- 500 kV

Feet

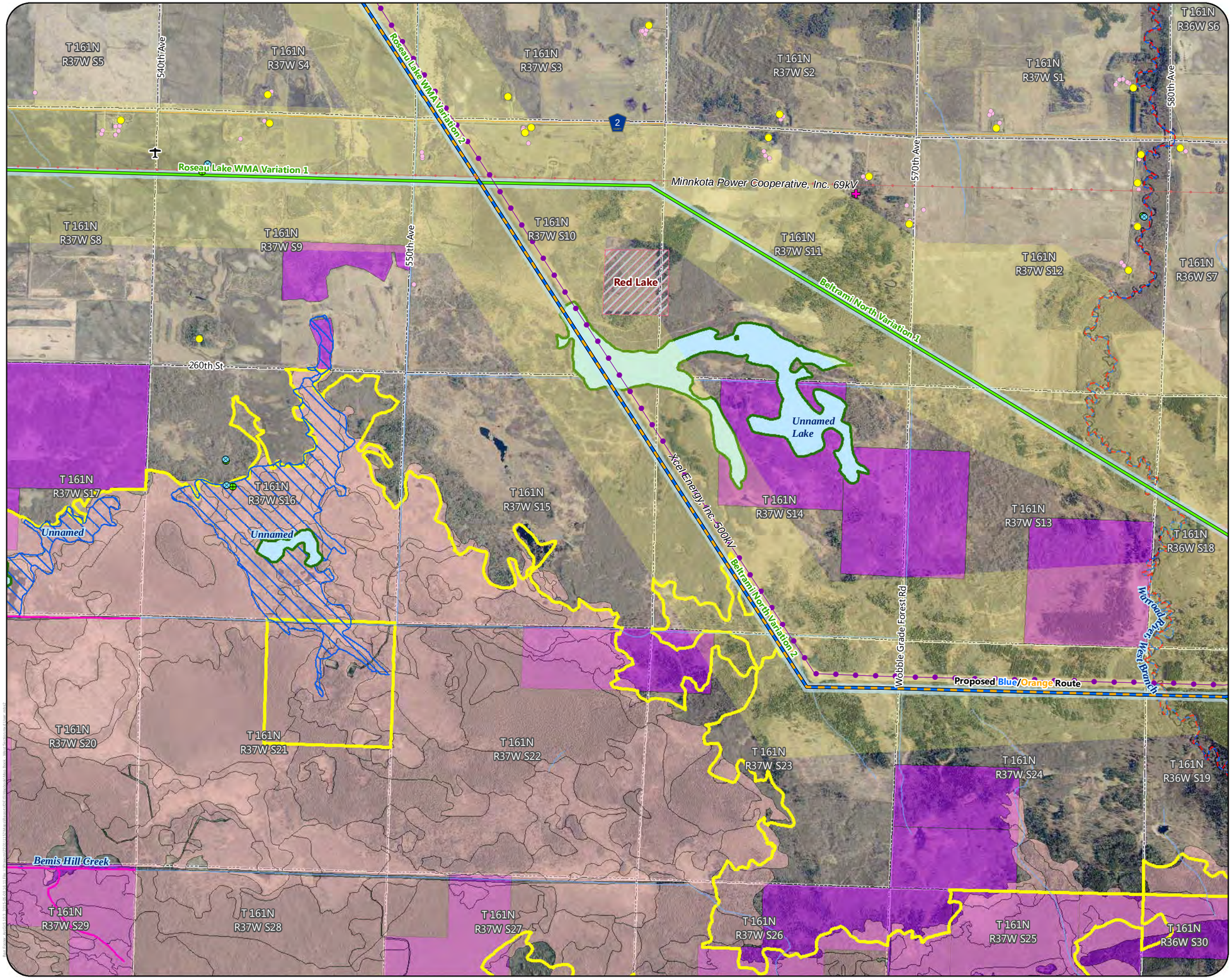
2,000 0 2,000

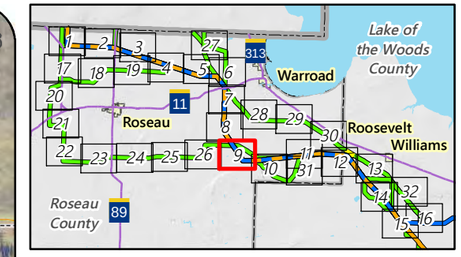
Appendix S - Map 8

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Cemetery
- Airstrip
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Trout Stream
- PWI Waterbody
- Shallow Lake
- High Conservation Value Forest
- Native Plant Community (Data only available for Roseau County)
- USFWS Interest Lands
- Indian Reservation Land
- Public Land Survey Section

Existing Transmission Lines

- 69 or 115 kV
- 500 kV

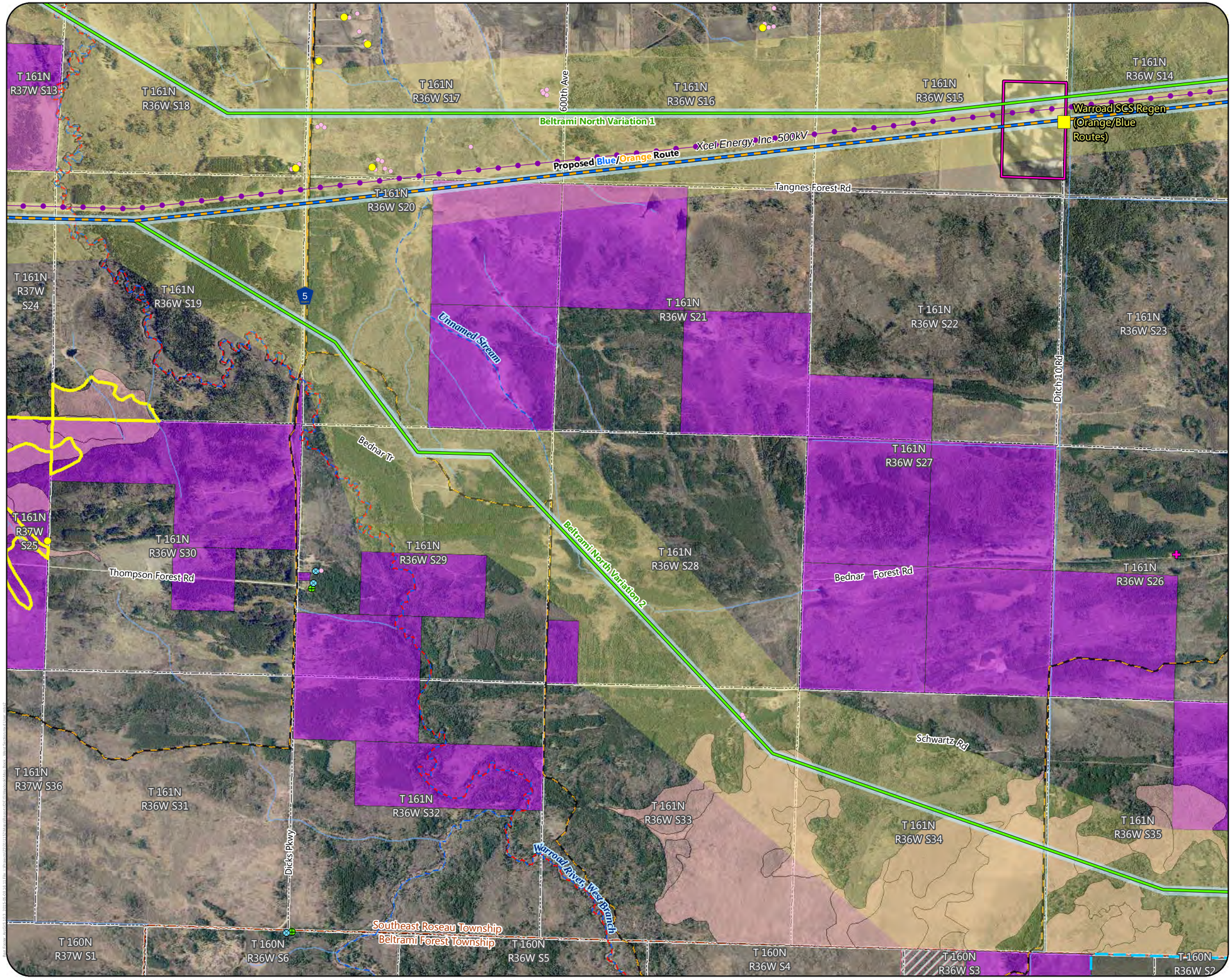
Feet

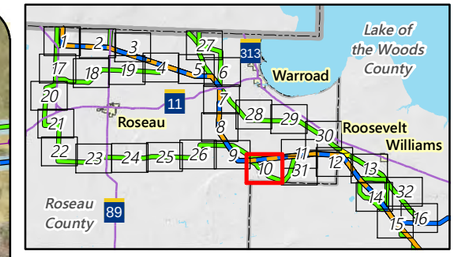
2,000 0 2,000

Appendix S - Map 9

MAP BOOK - WEST SECTION

Great Northern Transmission Line
Final Environmental Impact Statement





Proposed Regeneration Site

Proposed Routes

Blue/Orange Route

Alternatives

Route Variation

Anticipated Right-of-Way

Anticipated Route Width

Proposed Series Compensation Station

Residences

Commercial or Non-Residential Structure

Cemetery

County Well Index

Mineral Exploration or Engineering Drillhole

NHD Watercourse

PWI Watercourse

MPCA Impaired Stream

Preliminary Peatland SNA Watershed Protection Area

High Conservation Value Forest

Native Plant Community (Data only available for Roseau County)

USFWS Interest Lands

Indian Reservation Land

Snowmobile Trail

Civil Township

Public Land Survey Section

Existing Transmission Lines

500 kV

Feet

2,000 0 2,000

Appendix S - Map 10

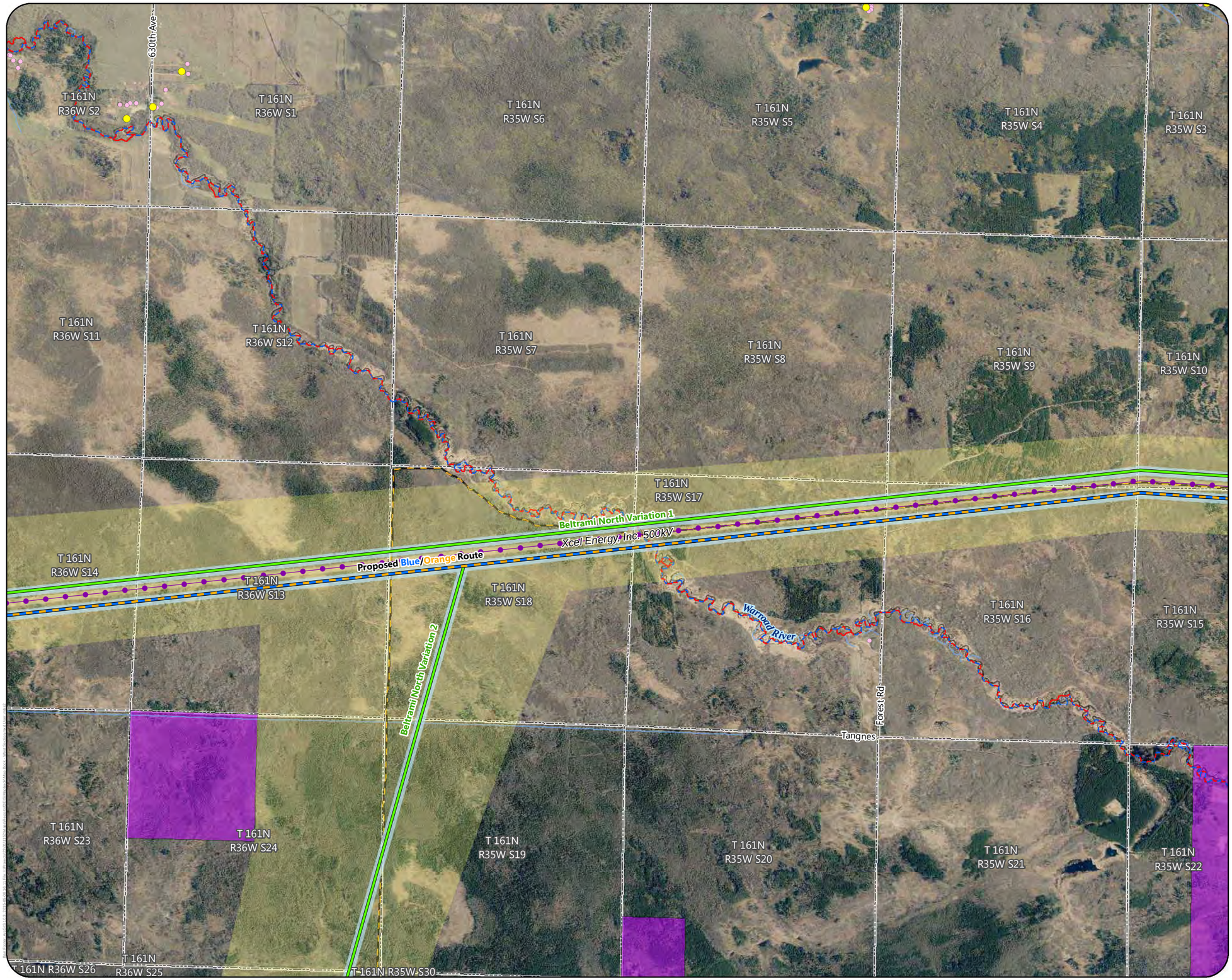
MAP BOOK - WEST SECTION

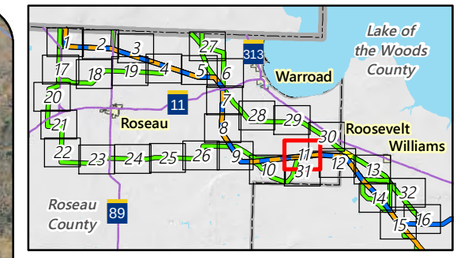
Great Northern Transmission Line

Final Environmental Impact Statement

U.S. DEPARTMENT OF ENERGY

MINNESOTA DEPARTMENT OF COMMERCE





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- USFWS Interest Lands
- Snowmobile Trail
- Public Land Survey Section

Existing Transmission Lines

- 500 kV

Feet

2,000 0 2,000

Appendix S - Map 11

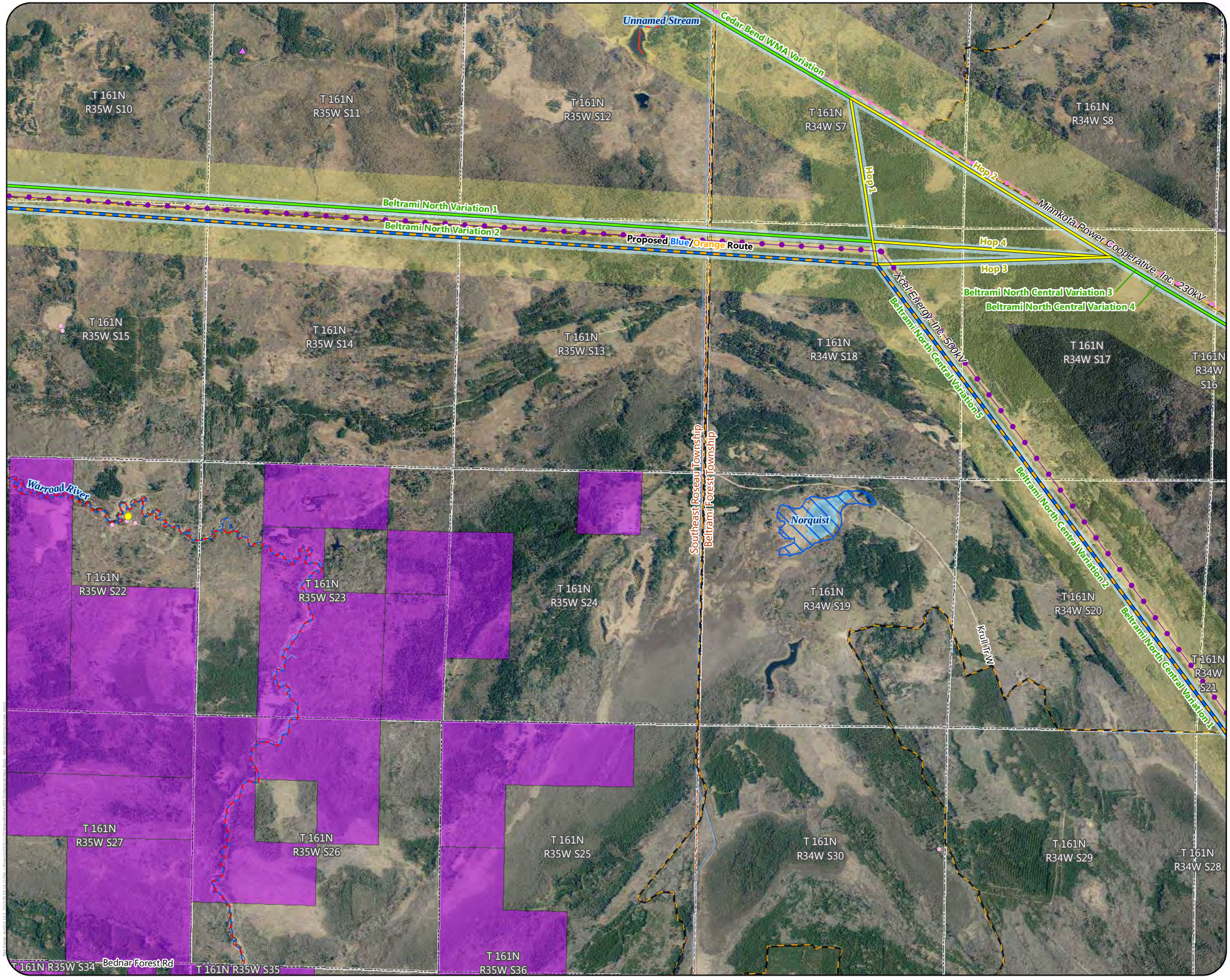
MAP BOOK - WEST SECTION

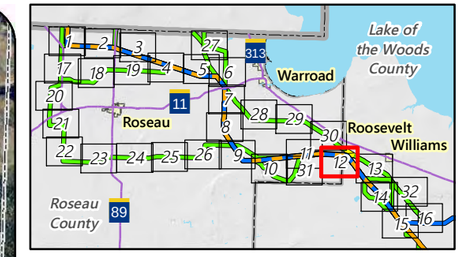
Great Northern Transmission Line

Final Environmental Impact Statement

U.S. DEPARTMENT OF ENERGY

MINNESOTA DEPARTMENT OF COMMERCE





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Route Variation Hop
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Aggregate Source Location
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- NHD Waterbody
- PWI Waterbody
- USFWS Interest Lands
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

Existing Transmission Lines

- 230 kV
- 500 kV

Feet

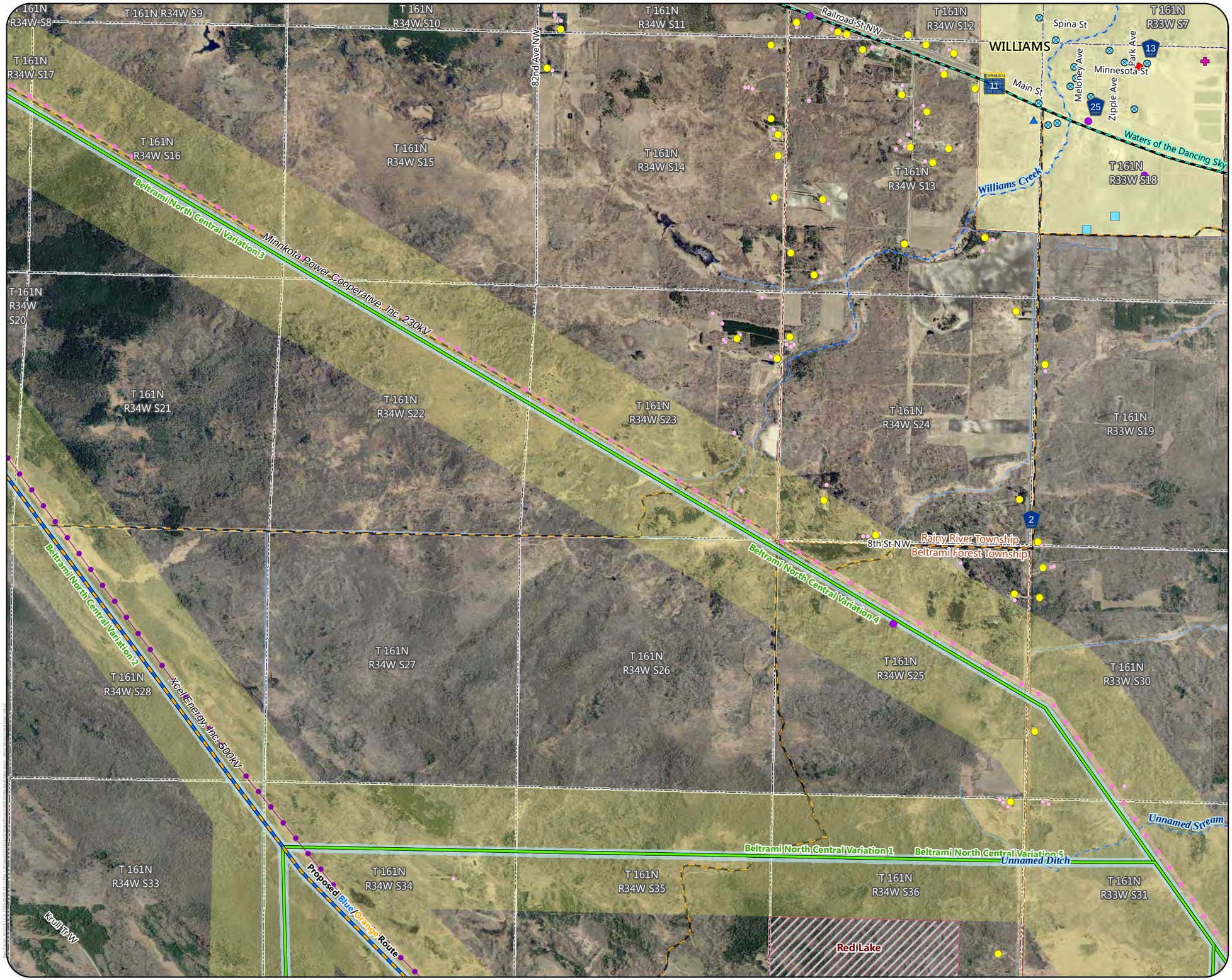
2,000 0 2,000

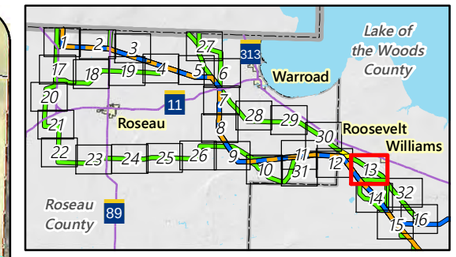
Appendix S - Map 12

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Cemetery
- County Well Index
- NHD Watercourse
- PWI Watercourse
- Indian Reservation Land
- Scenic Byway
- Snowmobile Trail
- Municipal Boundary
- Civil Township
- Public Land Survey Section

MPCA Database

- Hazardous Waste
- Investigation and Cleanup
- Tanks and Leaks
- Multiple Activities

Existing Transmission Lines

- 230 kV
- 500 kV

Feet

2,000 0 2,000

Appendix S - Map 13

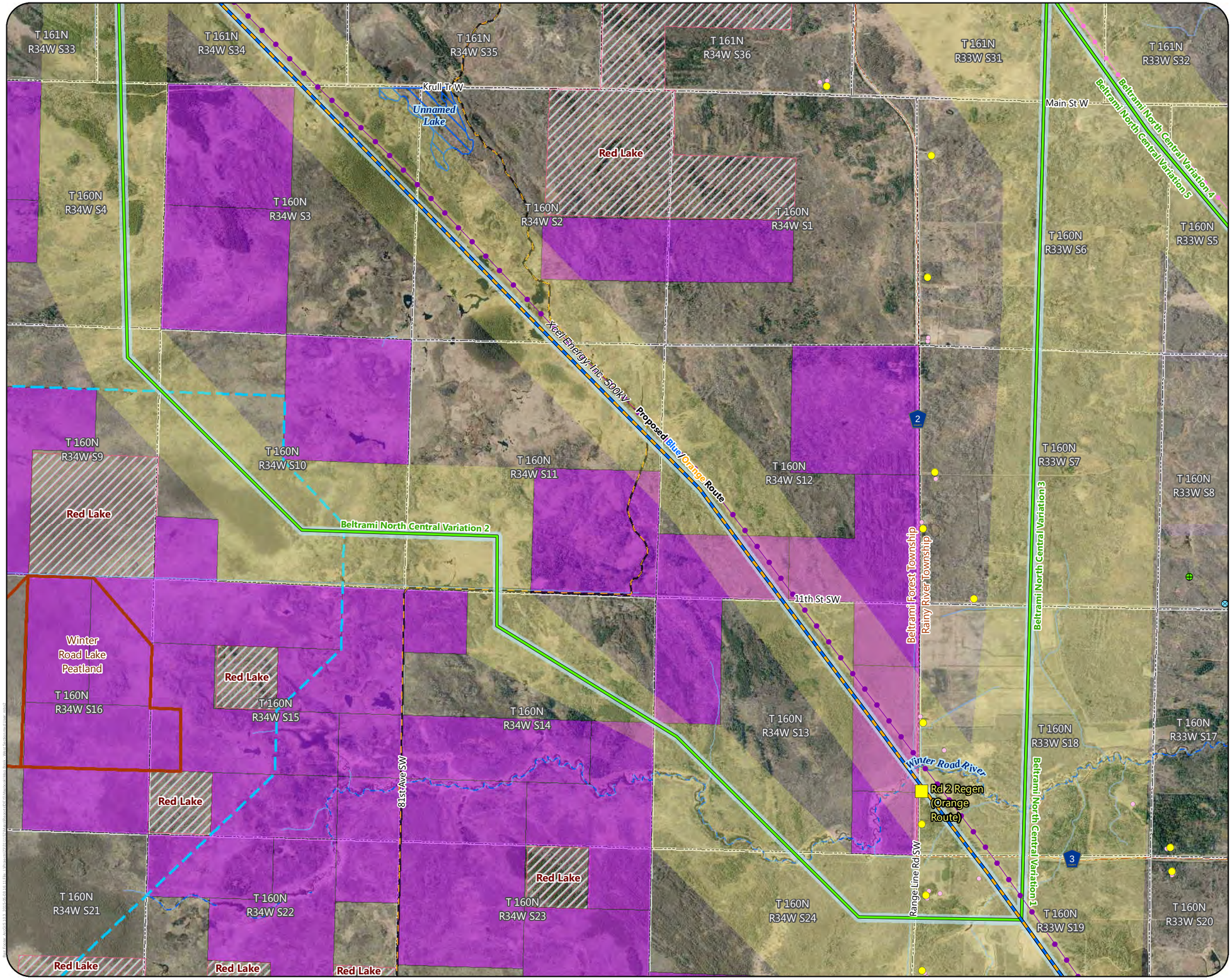
MAP BOOK - WEST SECTION

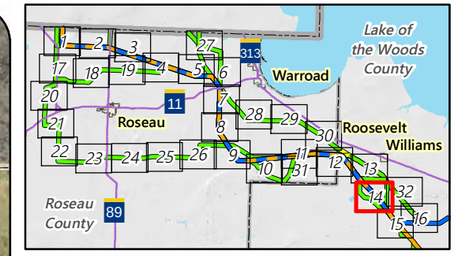
Great Northern Transmission Line

Final Environmental Impact Statement

U.S. DEPARTMENT OF ENERGY

MINNESOTA DEPARTMENT OF COMMERCE





Proposed Regeneration Site

Proposed Routes

Blue/Orange Route

Alternatives

Route Variation

Anticipated Right-of-Way

Anticipated Route Width

Residences

Commercial or Non-Residential Structure

County Well Index

Mineral Exploration or Engineering Drillhole

NHD Watercourse

PWI Watercourse

PWI Waterbody

Scientific and Natural Area (SNA)

Preliminary Peatland SNA Watershed Protection Area

USFWS Interest Lands

Indian Reservation Land

Snowmobile Trail

Civil Township

Public Land Survey Section

Existing Transmission Lines

230 kV

500 kV

Feet

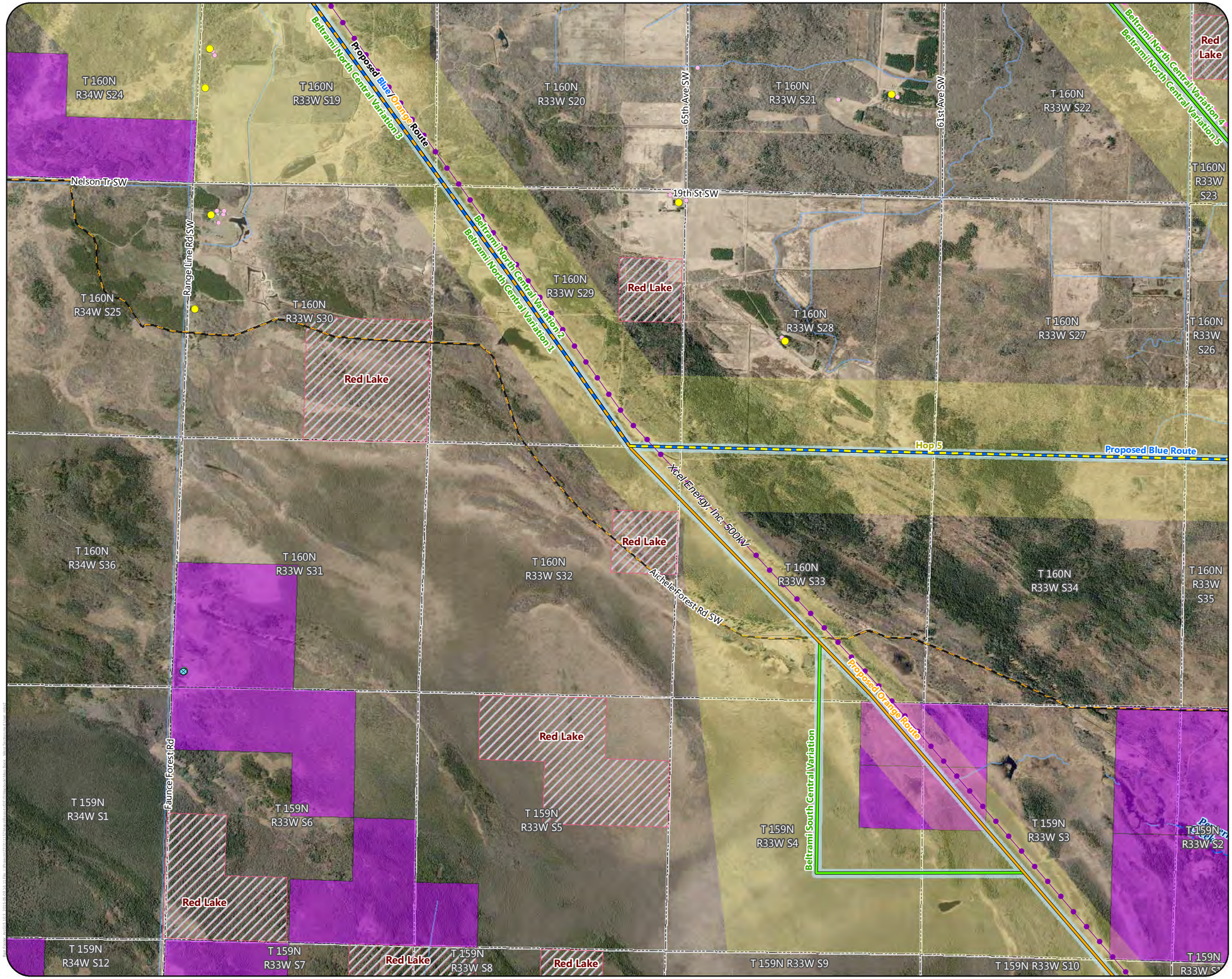
2,000 0 2,000

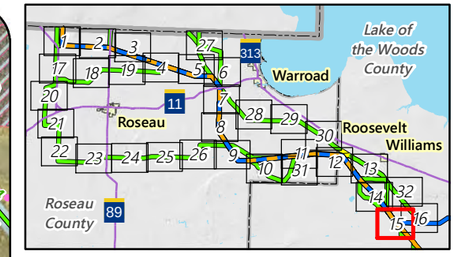
Appendix S - Map 14

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Proposed Routes

- Blue Route
- Orange Route
- Blue/Orange Route

Alternatives

- Route Variation
- Route Variation Hop
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- USFWS Interest Lands
- Indian Reservation Land
- Snowmobile Trail
- Public Land Survey Section

Existing Transmission Lines

- 230 kV
- 500 kV

Feet

2,000 0 2,000

Appendix S - Map 15

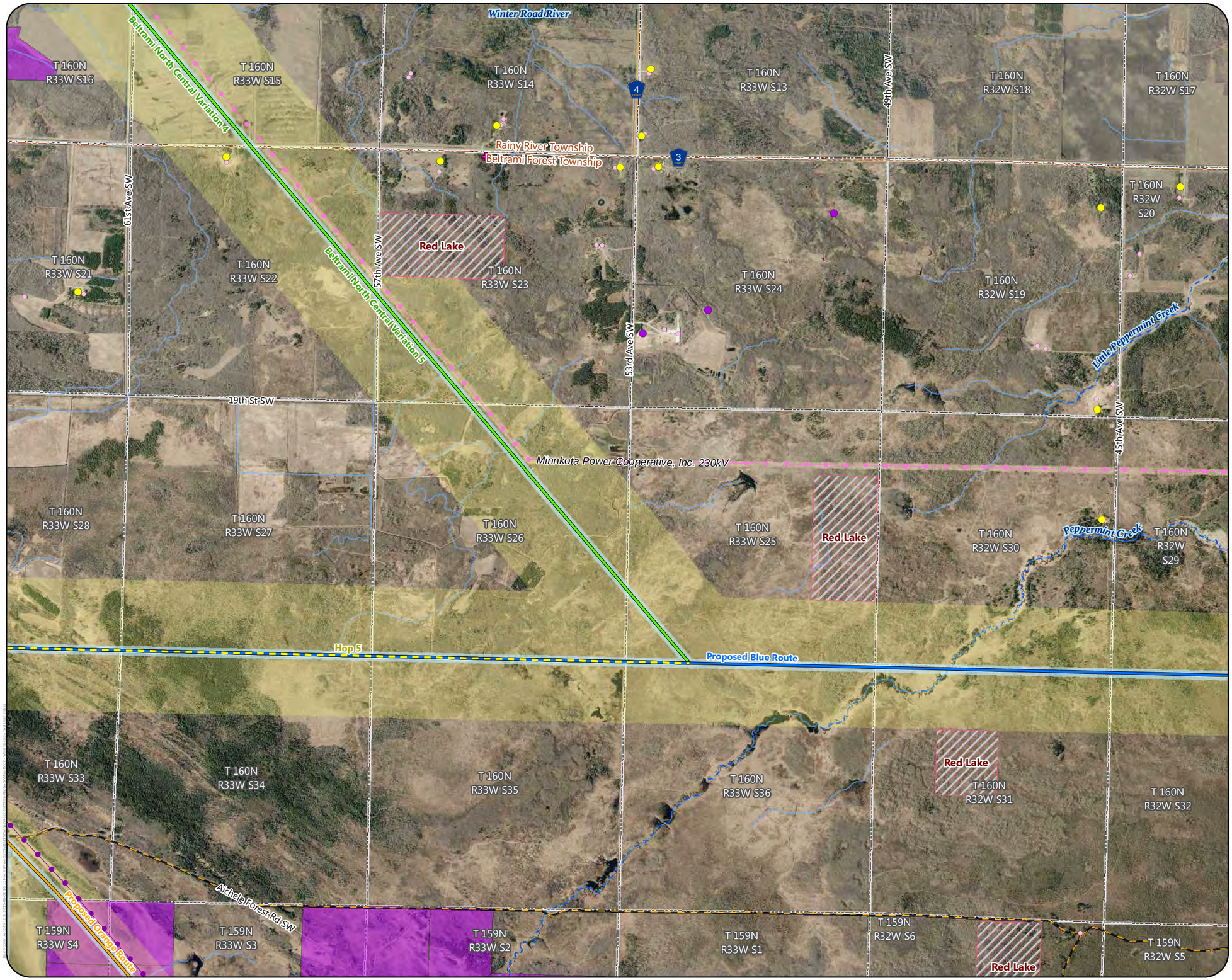
MAP BOOK - WEST SECTION

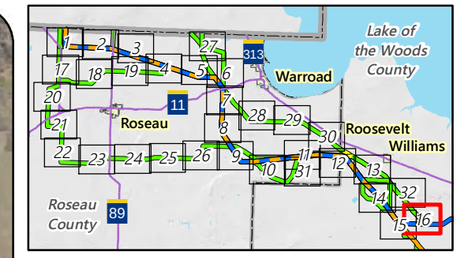
Great Northern Transmission Line

Final Environmental Impact Statement

U.S. DEPARTMENT OF ENERGY

MINNESOTA DEPARTMENT OF COMMERCE





Proposed Routes

- Blue Route
- Orange Route

Alternatives

- Route Variation
- Route Variation Hop
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Cemetery
- NHD Watercourse
- PWI Watercourse
- USFWS Interest Lands
- Indian Reservation Land
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

MPCA Database

- Multiple Activities

Existing Transmission Lines

- 230 kV
- 500 kV

Feet

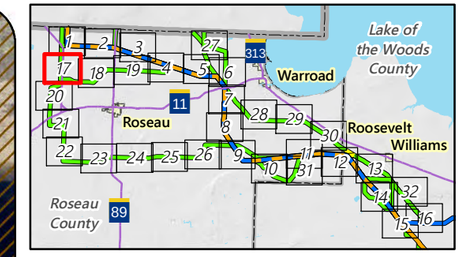
2,000 0 2,000

Appendix S - Map 16

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement



Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Church
- County Well Index
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Wildlife Management Area (WMA)
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

Feet

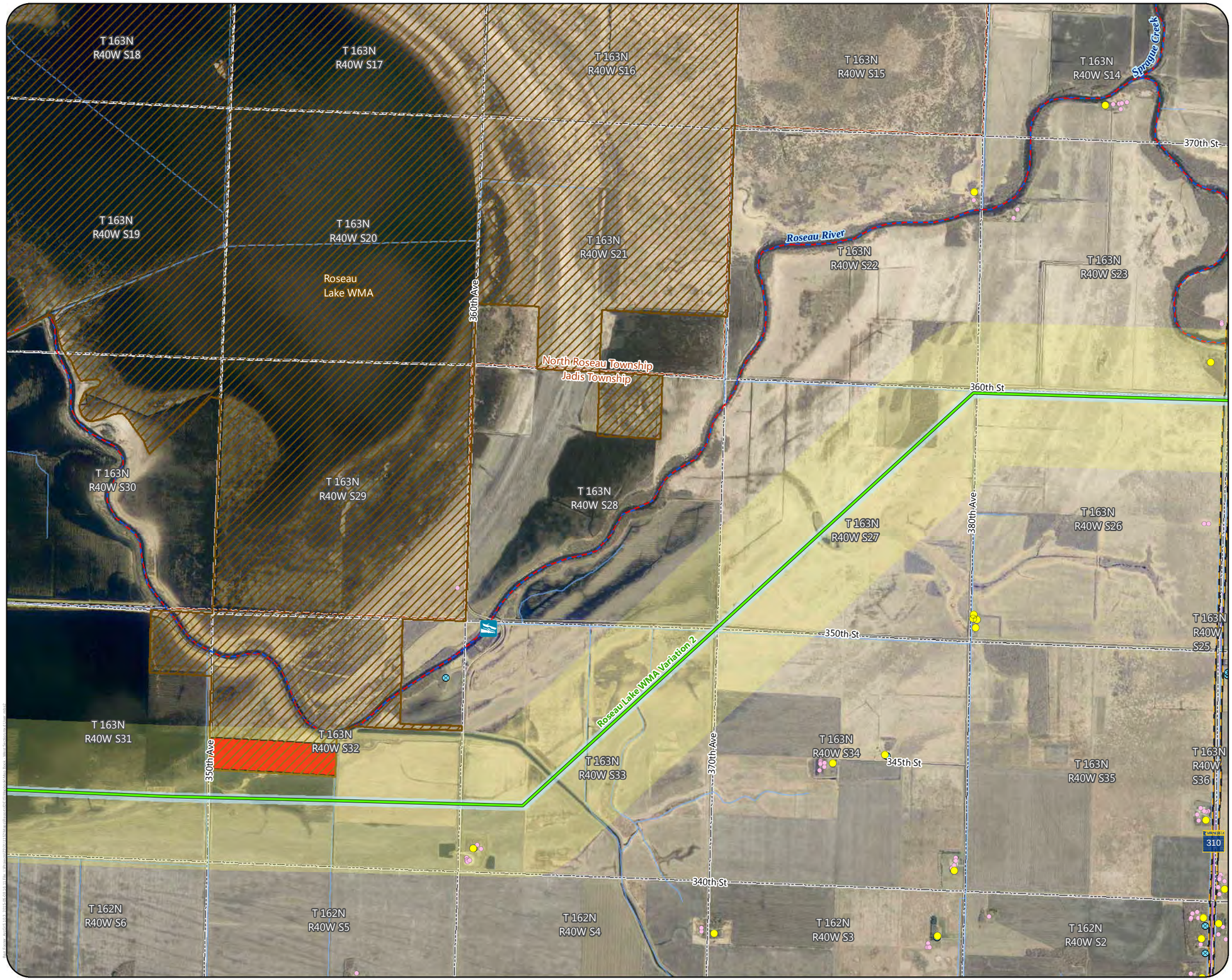
2,000 0 2,000

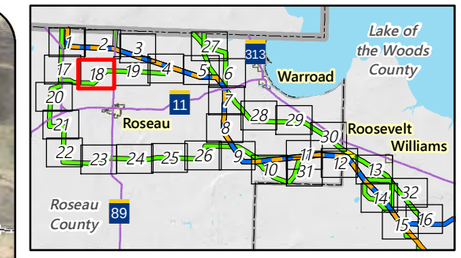
Appendix S - Map 17

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- County Well Index
- Trailer Launch Water Access
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Wildlife Management Area (WMA)
- NAWCA Federal Aid Parcels
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

Feet

2,000 0 2,000

Appendix S - Map 18

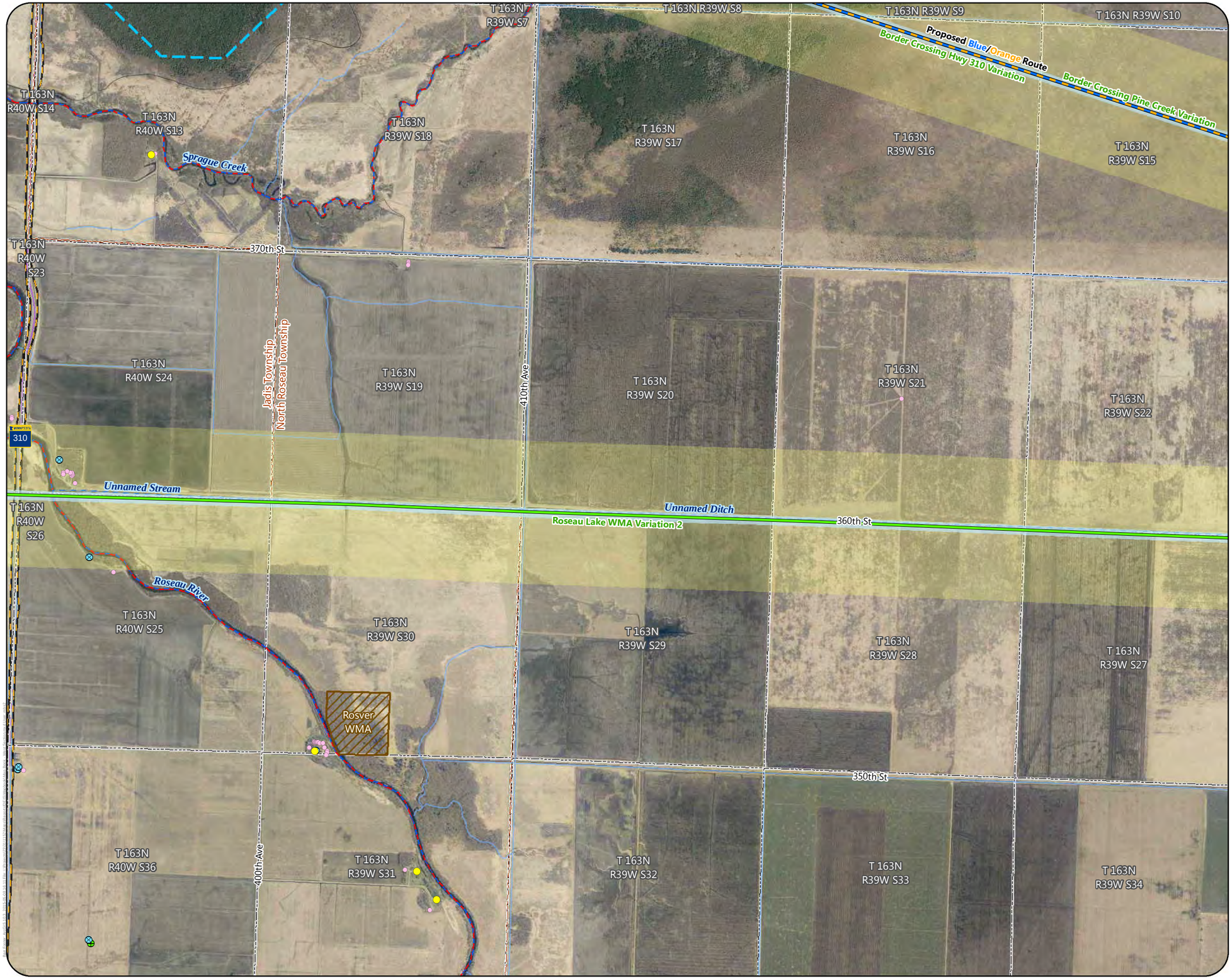
MAP BOOK - WEST SECTION

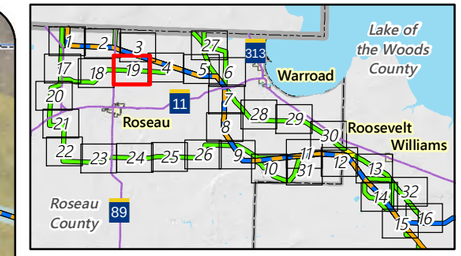
Great Northern Transmission Line

Final Environmental Impact Statement

U.S. DEPARTMENT OF ENERGY

MINNESOTA DEPARTMENT OF COMMERCE





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Wildlife Management Area (WMA)
- Preliminary Peatland SNA Watershed Protection Area
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

Feet

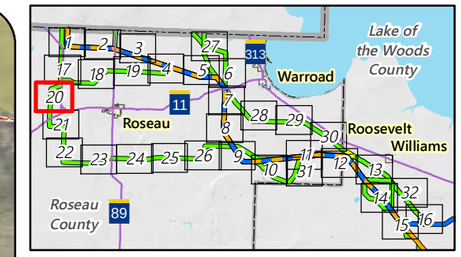
2,000 0 2,000

Appendix S - Map 19

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement



Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Cemetery
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- Scenic Byway
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

Feet

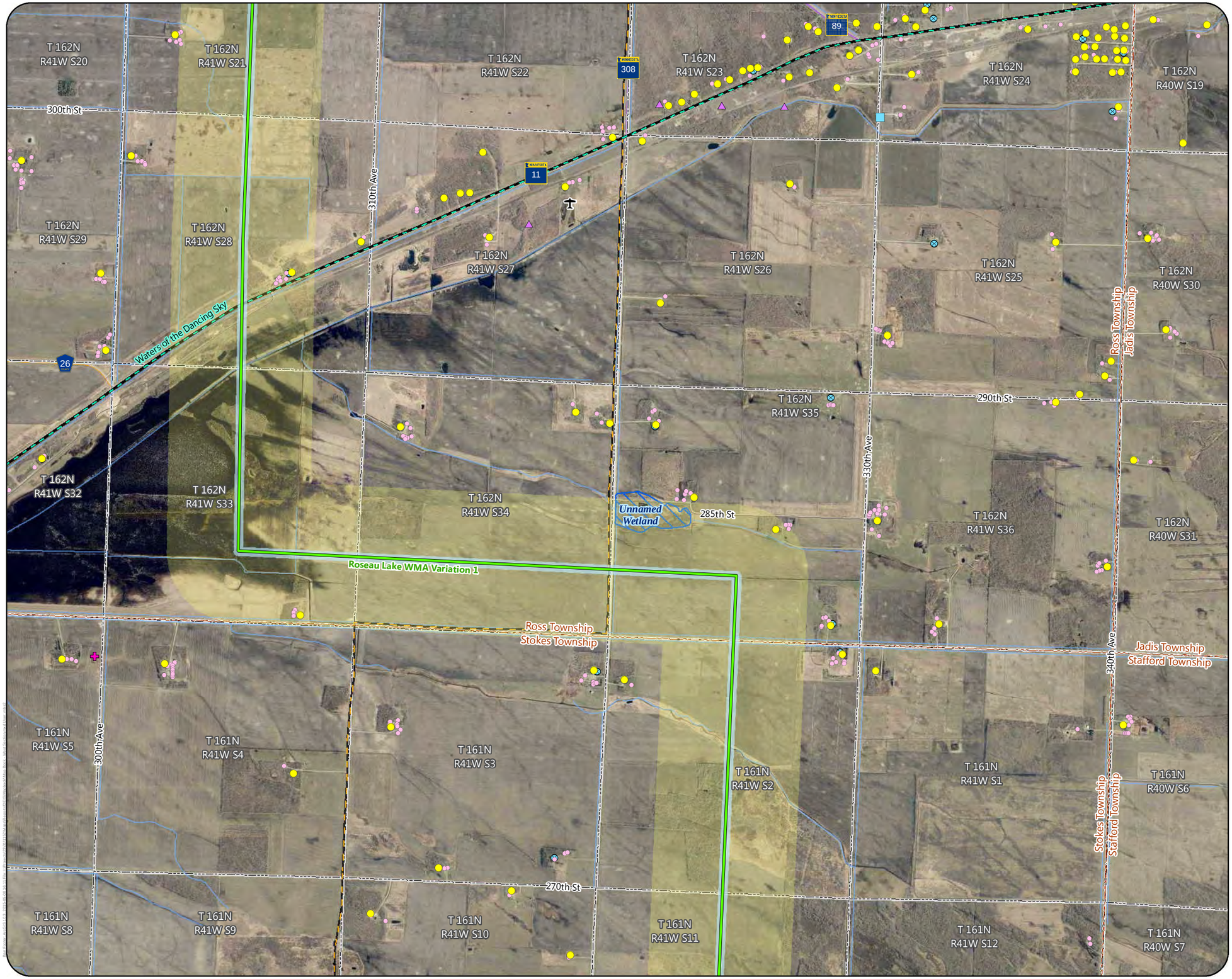
2,000 0 2,000

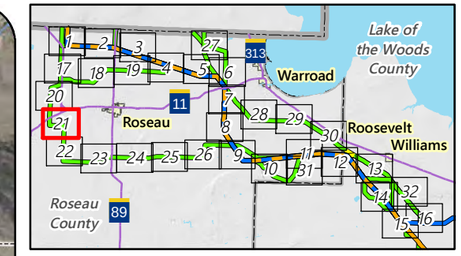
Appendix S - Map 20

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Cemetery
- Airstrip
- Aggregate Source Location
- County Well Index
- NHD Watercourse
- PWI Waterbody
- Scenic Byway
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

MPCA Database

- Hazardous Waste

Feet

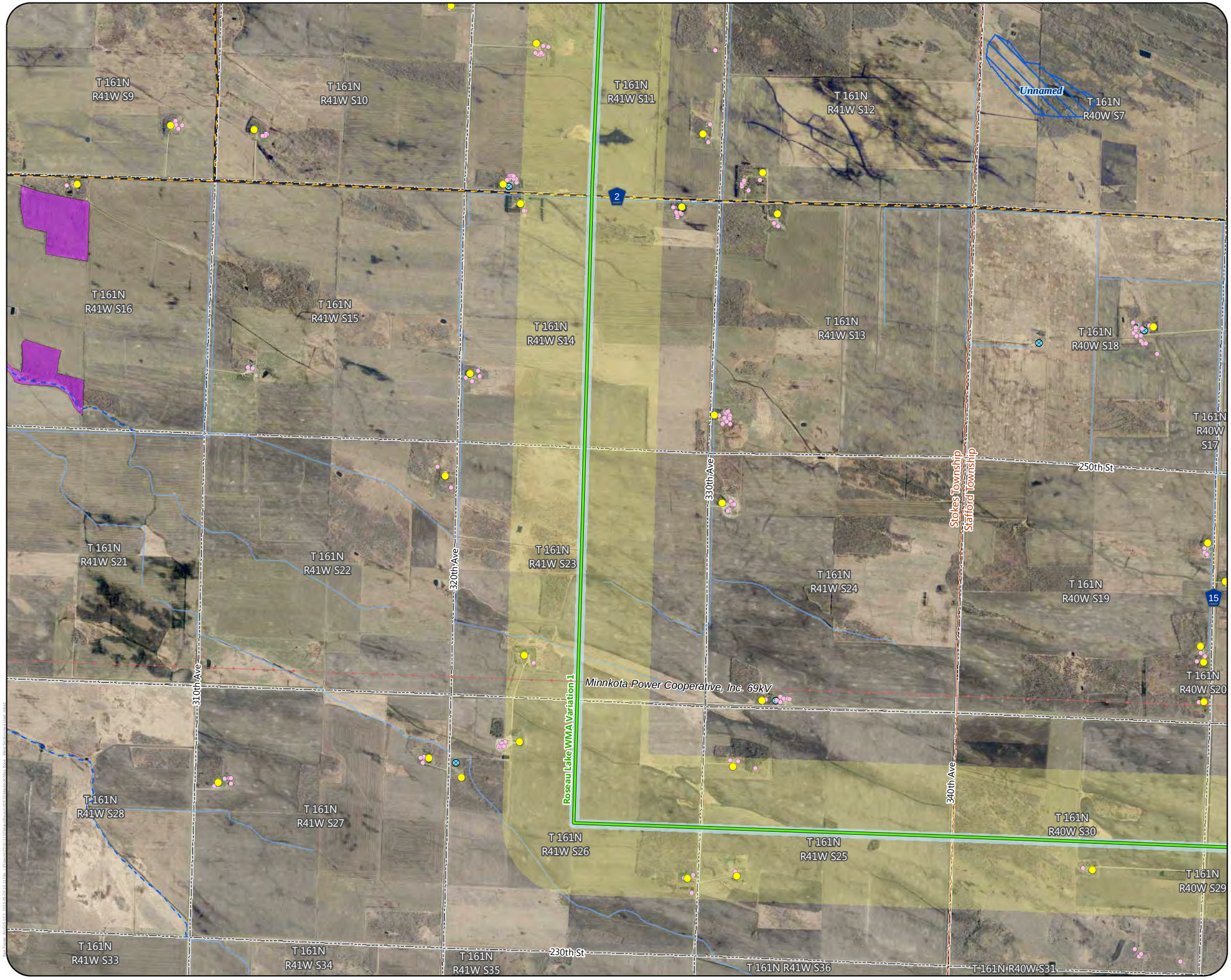
2,000 0 2,000

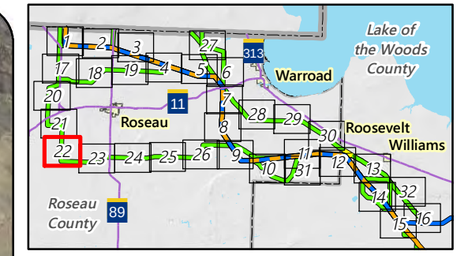
Appendix S - Map 21

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- County Well Index
- NHD Watercourse
- PWI Watercourse
- PWI Waterbody
- USFWS Interest Lands
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

MPCA Database

- Tanks and Leaks

Existing Transmission Lines

- 69 or 115 kV

Feet

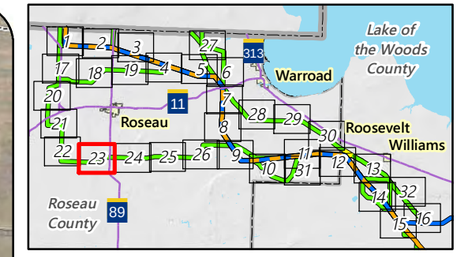
2,000 0 2,000

Appendix S - Map 22

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement



Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Cemetery
- Aggregate Source Location
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- Snowmobile Trail
- Public Land Survey Section

Existing Transmission Lines

- 69 or 115 kV

Feet

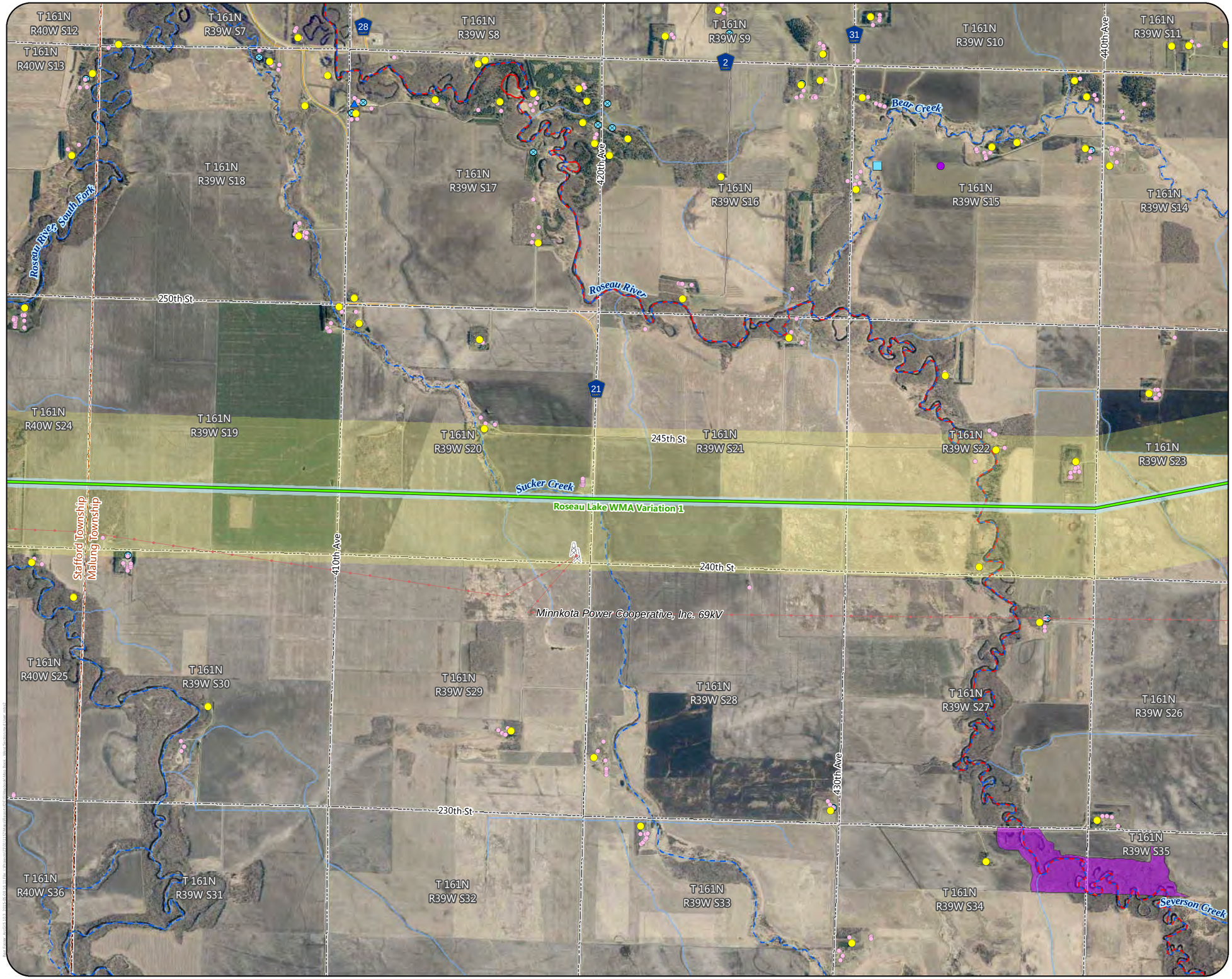
2,000 0 2,000

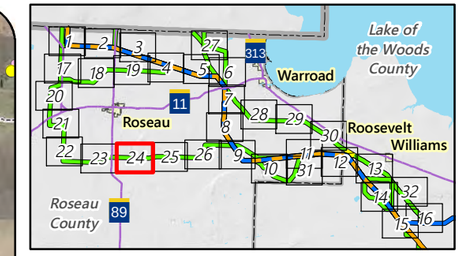
Appendix S - Map 23

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Communication Tower
- County Well Index
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- USFWS Interest Lands
- Civil Township
- Public Land Survey Section

MPCA Database

- Hazardous Waste
- Tanks and Leaks
- Multiple Activities

Existing Transmission Lines

- 69 or 115 kV

Feet

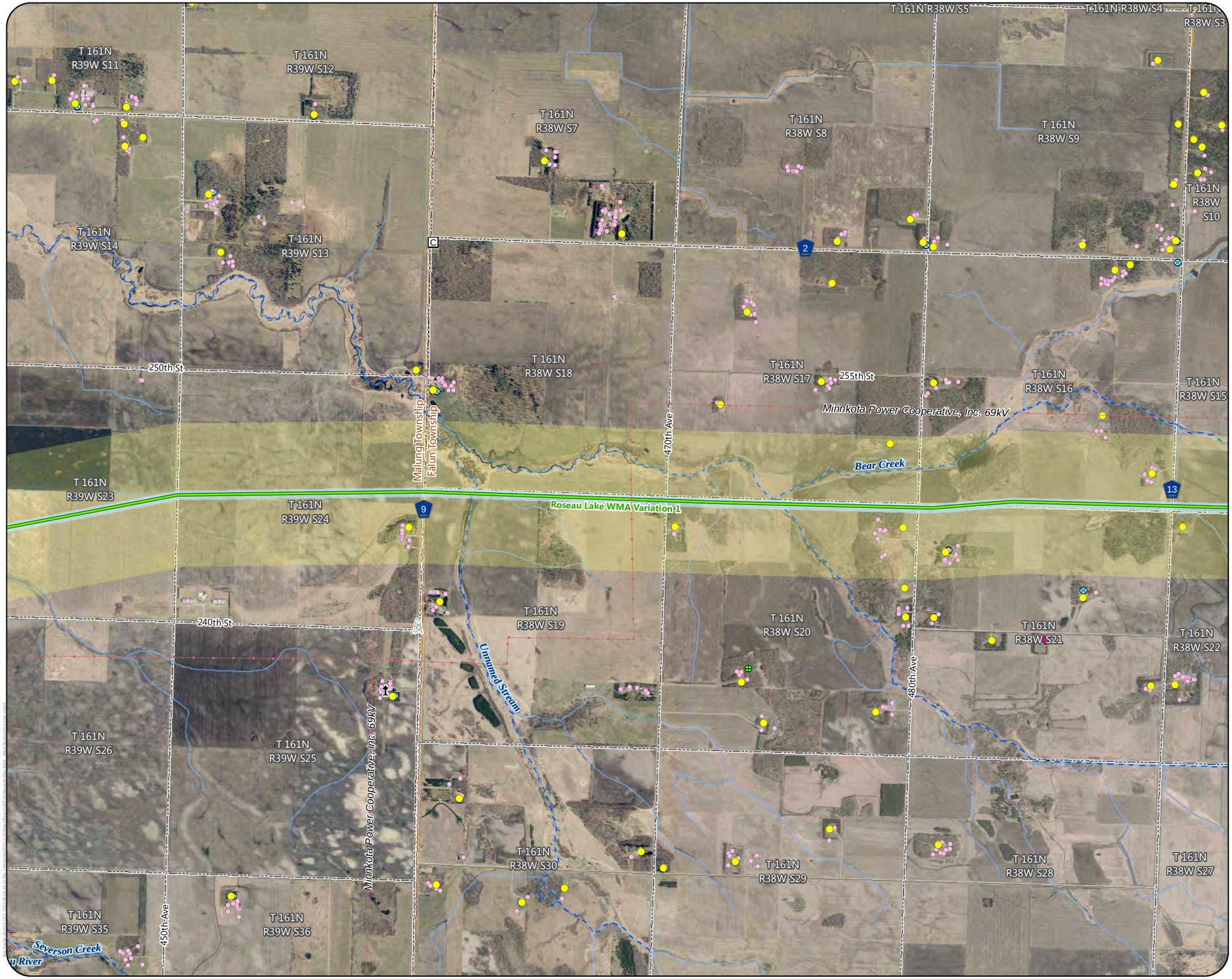
2,000 0 2,000

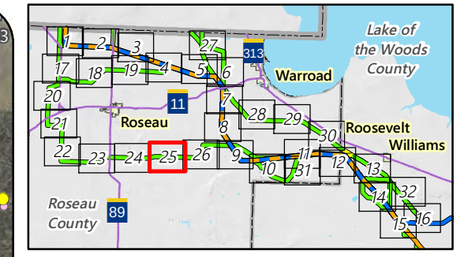
Appendix S - Map 24

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Church
- Cemetery
- Airstrip
- Communication Tower
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- USFWS Interest Lands
- Civil Township
- Public Land Survey Section

Existing Transmission Lines

- 69 or 115 kV

Feet

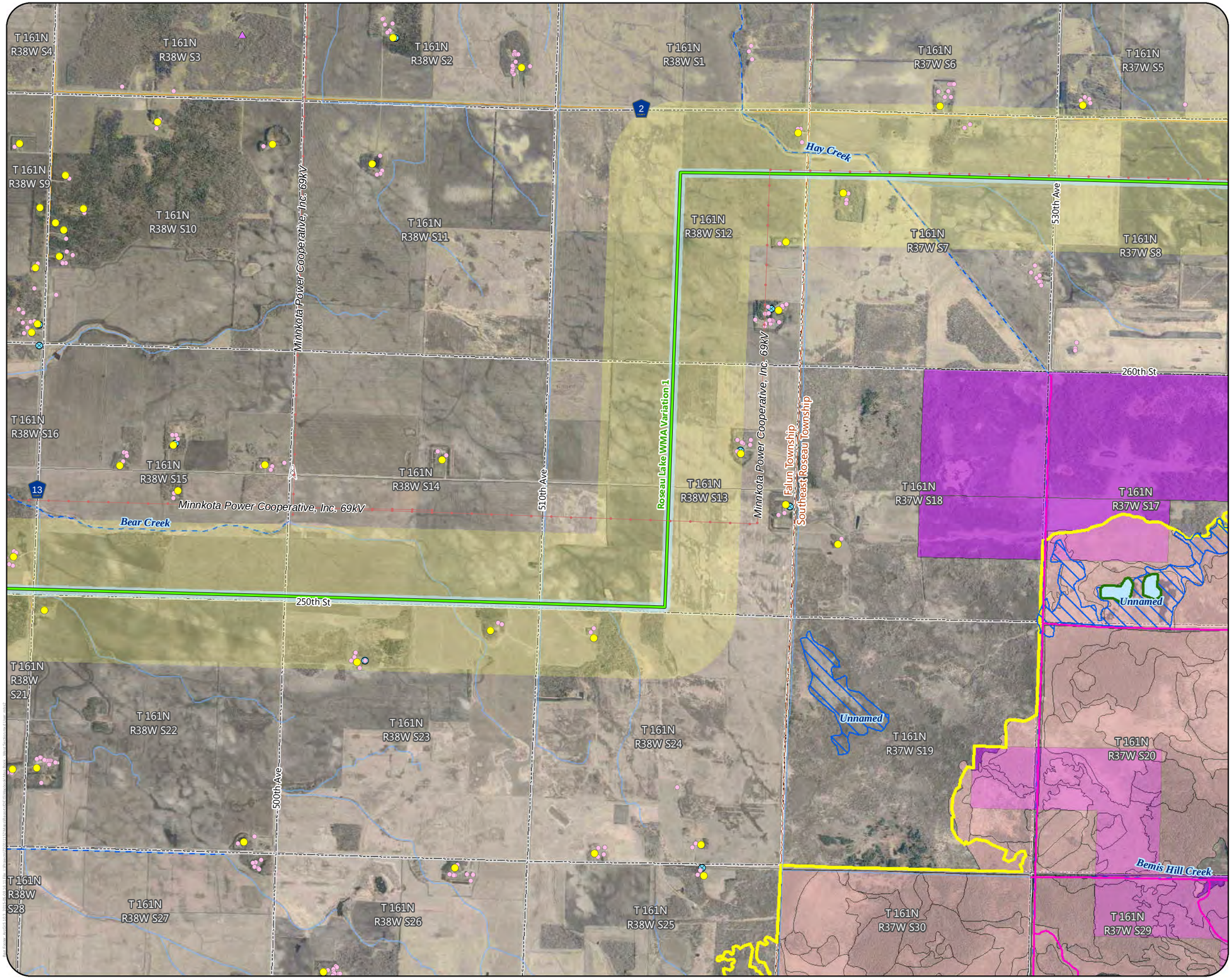
2,000 0 2,000

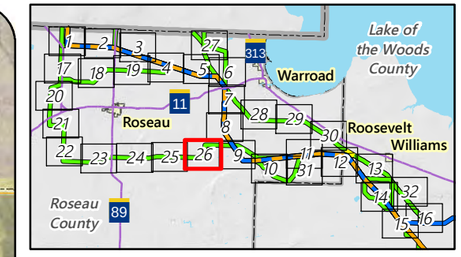
Appendix S - Map 25

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Aggregate Source Location
- Communication Tower
- County Well Index
- NHD Watercourse
- PWI Watercourse
- Trout Stream
- PWI Waterbody
- Shallow Lake
- High Conservation Value Forest
- Native Plant Community (Data only available for Roseau County)
- USFWS Interest Lands
- Civil Township
- Public Land Survey Section

Existing Transmission Lines

- 69 or 115 kV

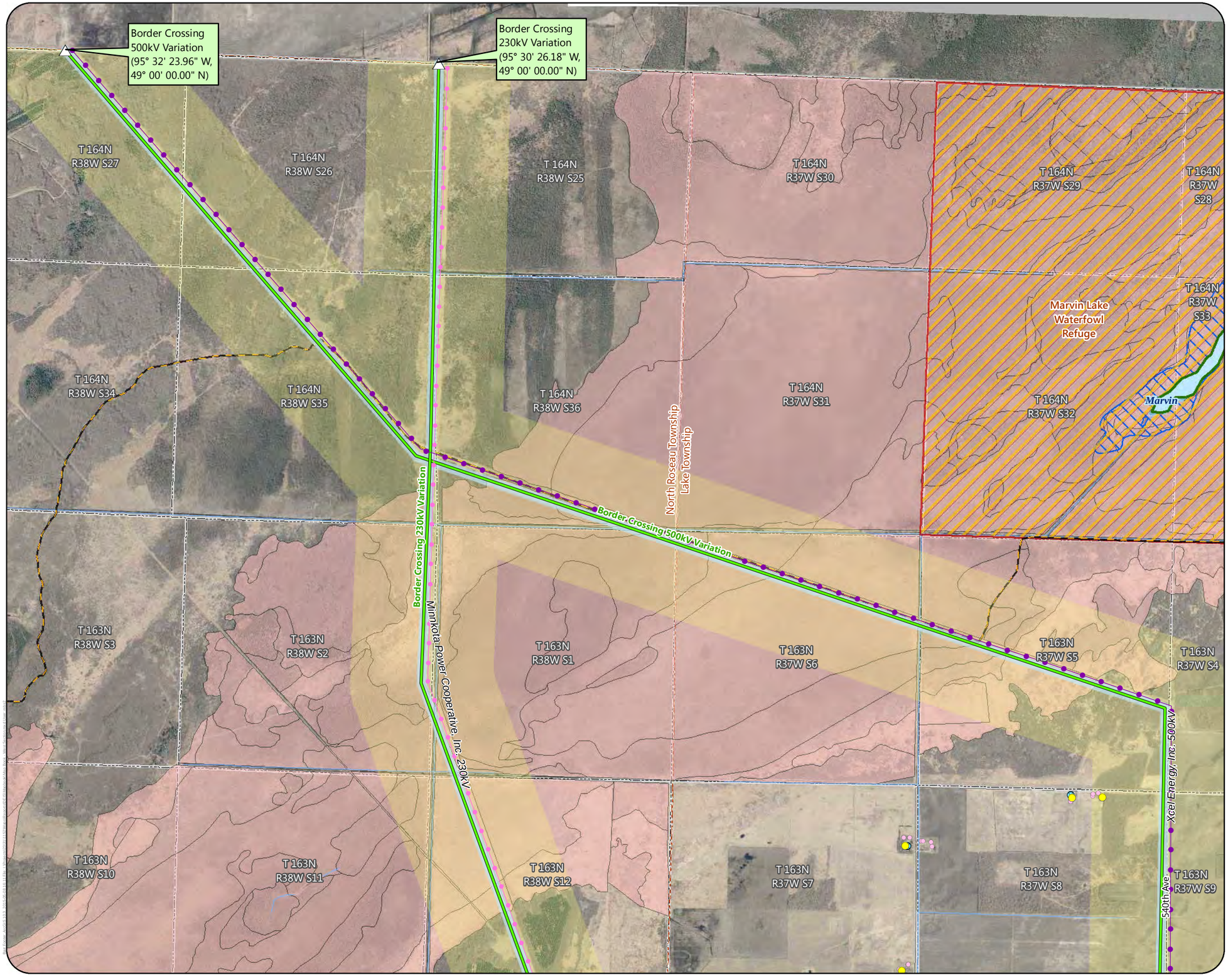
Feet

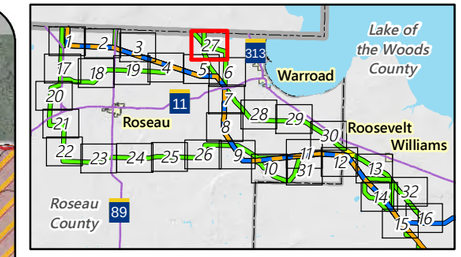
2,000 0 2,000

Appendix S - Map 26

MAP BOOK - WEST SECTION

Great Northern Transmission Line
Final Environmental Impact Statement





Border Crossing Point

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- County Well Index
- NHD Watercourse
- NHD Waterbody
- PWI Waterbody
- Shallow Lake
- State Game Refuge
- Native Plant Community (Data only available for Roseau County)
- Snowmobile Trail
- Civil Township
- Public Land Survey Section
- County Boundary
- International Boundary

Existing Transmission Lines

- 230 kV
- 500 kV

Feet

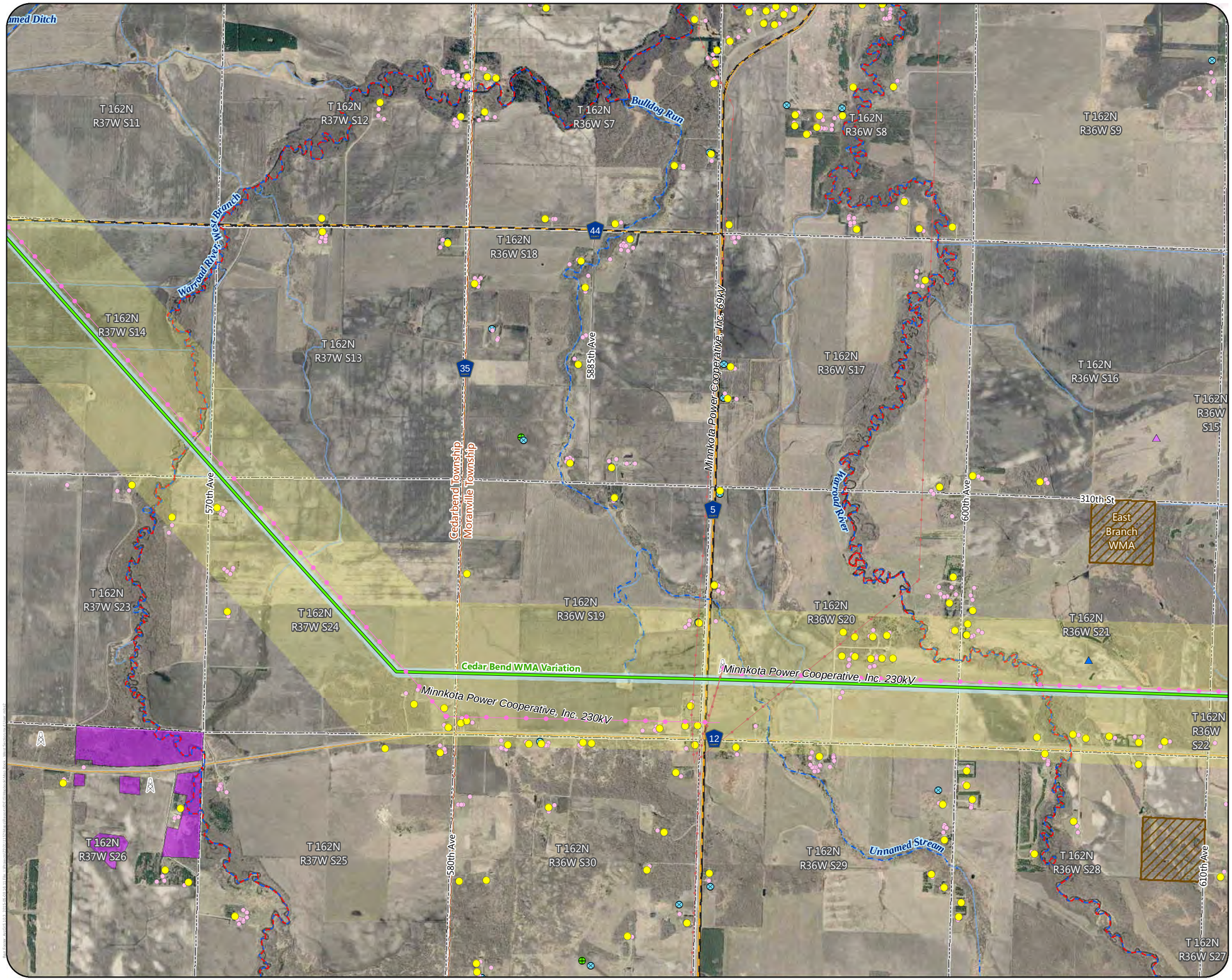
2,000 0 2,000

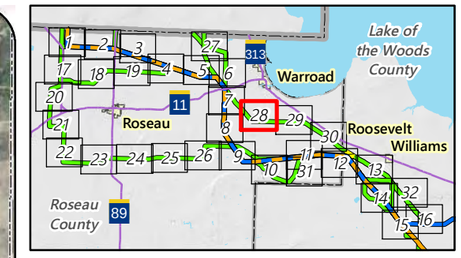
Appendix S - Map 27

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Aggregate Source Location
- Communication Tower
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Wildlife Management Area (WMA)
- USFWS Interest Lands
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

MPCA Database

- Tanks and Leaks

Existing Transmission Lines

- 69 or 115 kV
- 230 kV

Feet

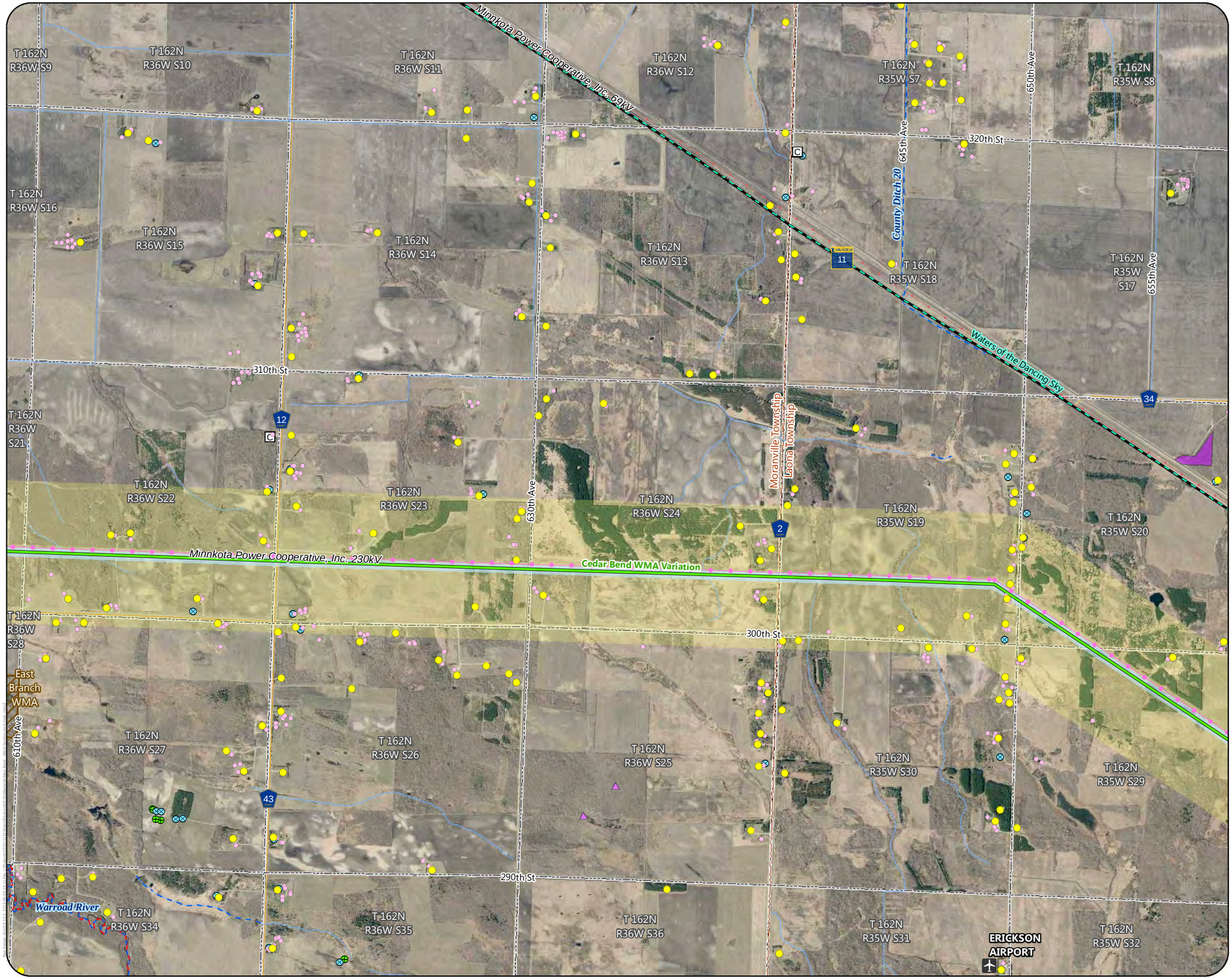
2,000 0 2,000

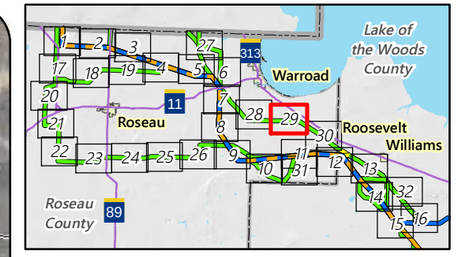
Appendix S - Map 28

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Church
- Airport
- Aggregate Source Location
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Wildlife Management Area (WMA)
- USFWS Interest Lands
- Scenic Byway
- Civil Township
- Public Land Survey Section

Existing Transmission Lines

- 69 or 115 kV
- 230 kV

Feet

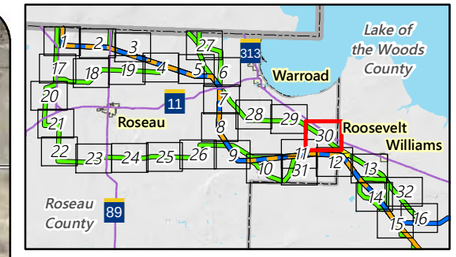
2,000 0 2,000

Appendix S - Map 29

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement



Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- Aggregate Source Location
- Communication Tower
- County Well Index
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Scenic Byway
- Snowmobile Trail
- Municipal Boundary
- Civil Township
- Public Land Survey Section

MPCA Database

- Tanks and Leaks
- Multiple Activities

Existing Transmission Lines

- 69 or 115 kV
- 230 kV

Feet

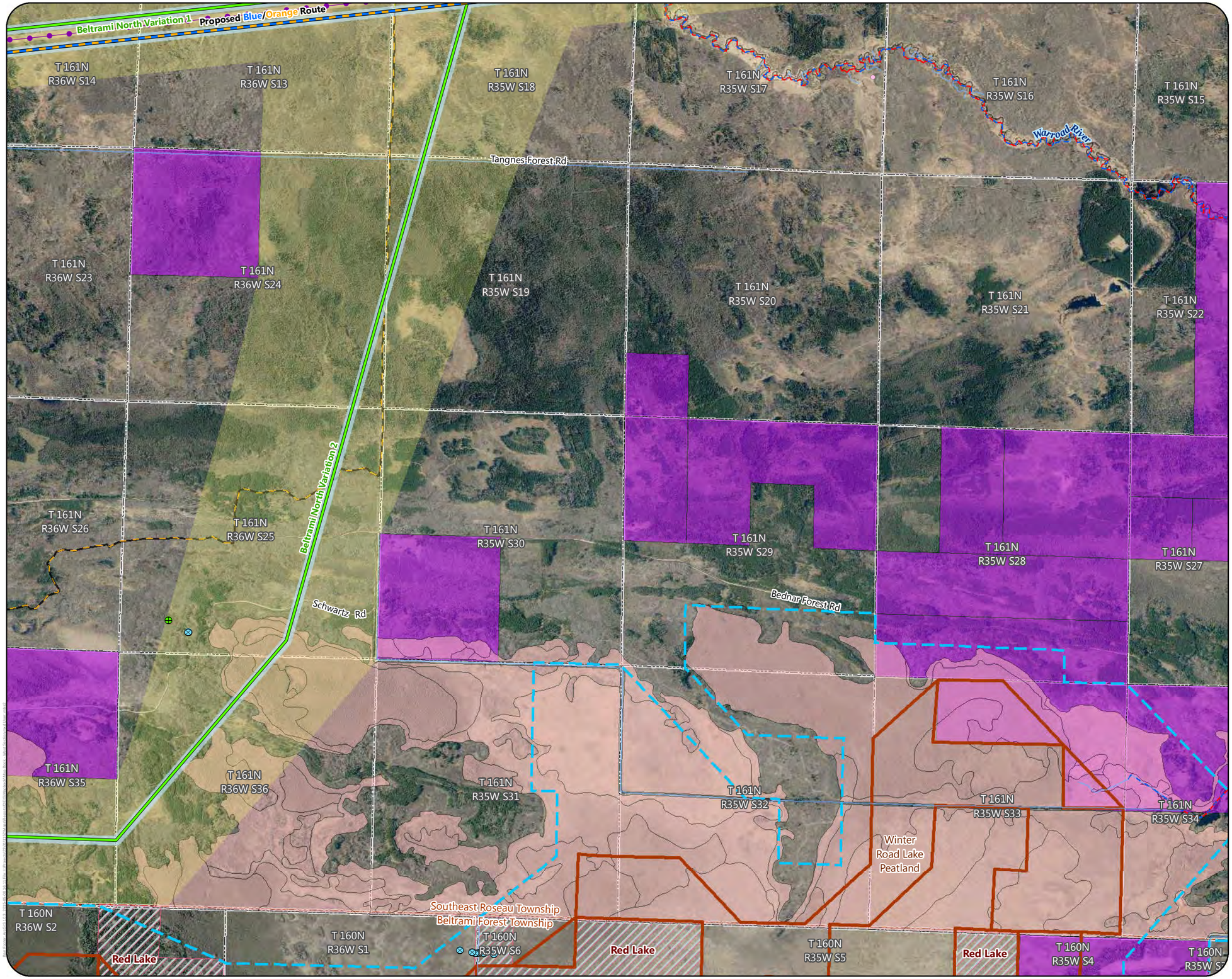
2,000 0 2,000

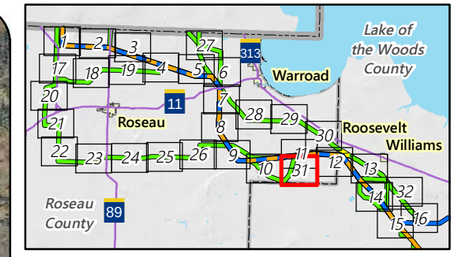
Appendix S - Map 30

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement





Proposed Routes

- Blue/Orange Route

Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Commercial or Non-Residential Structure
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- MPCA Impaired Stream
- Scientific and Natural Area (SNA)
- Preliminary Peatland SNA Watershed Protection Area
- Native Plant Community (Data only available for Roseau County)
- USFWS Interest Lands
- Indian Reservation Land
- Snowmobile Trail
- Civil Township
- Public Land Survey Section

Existing Transmission Lines

- 500 kV

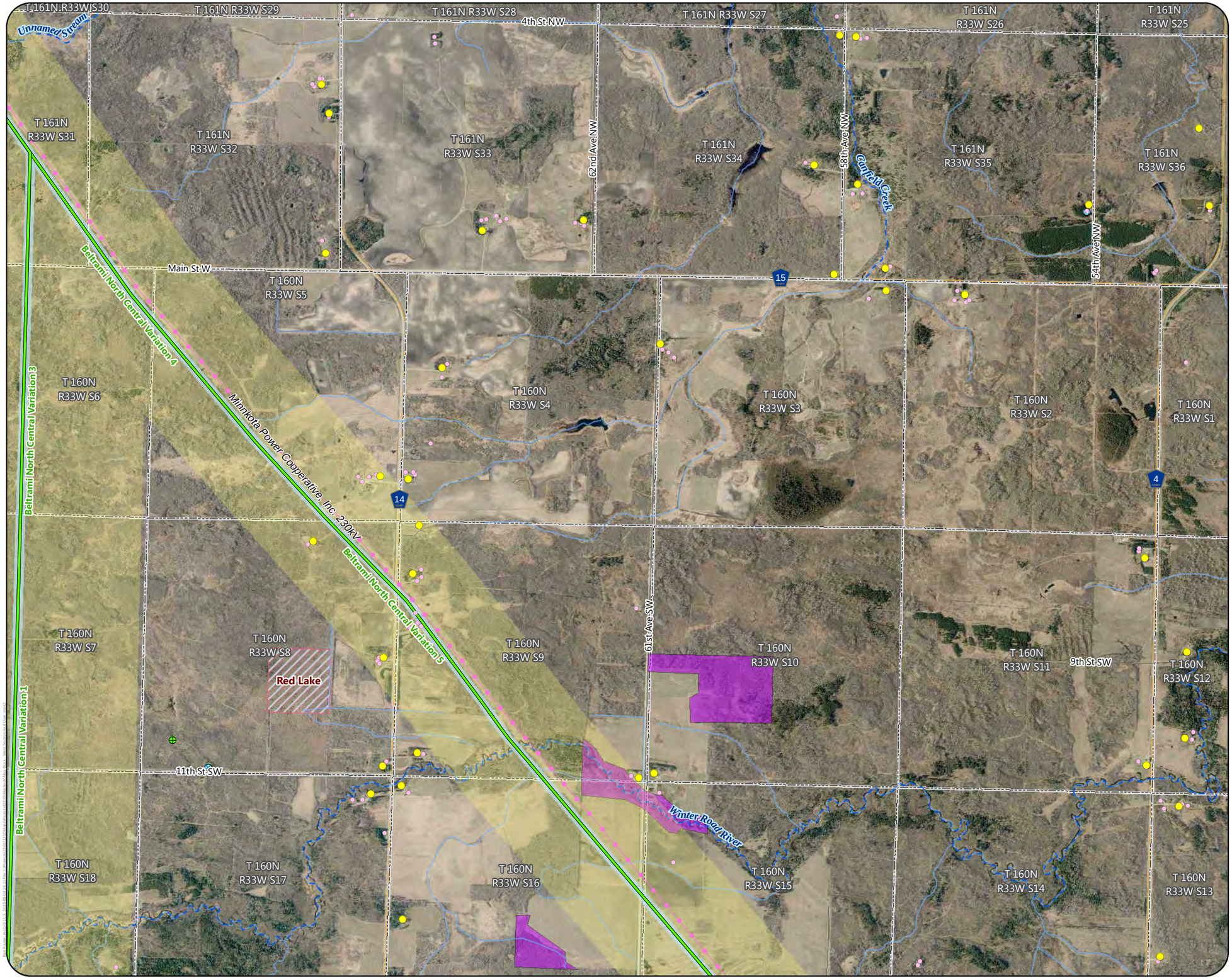
Feet

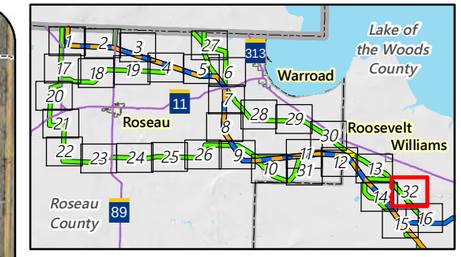
2,000 0 2,000

Appendix S - Map 31

MAP BOOK - WEST SECTION

Great Northern Transmission Line
Final Environmental Impact Statement





Alternatives

- Route Variation
- Anticipated Right-of-Way
- Anticipated Route Width
- Residences
- Commercial or Non-Residential Structure
- County Well Index
- Mineral Exploration or Engineering Drillhole
- NHD Watercourse
- PWI Watercourse
- USFWS Interest Lands
- Indian Reservation Land
- Public Land Survey Section

Existing Transmission Lines

- 230 kV

Feet

2,000 0 2,000

Appendix S - Map 32

MAP BOOK - WEST SECTION

Great Northern Transmission Line

Final Environmental Impact Statement